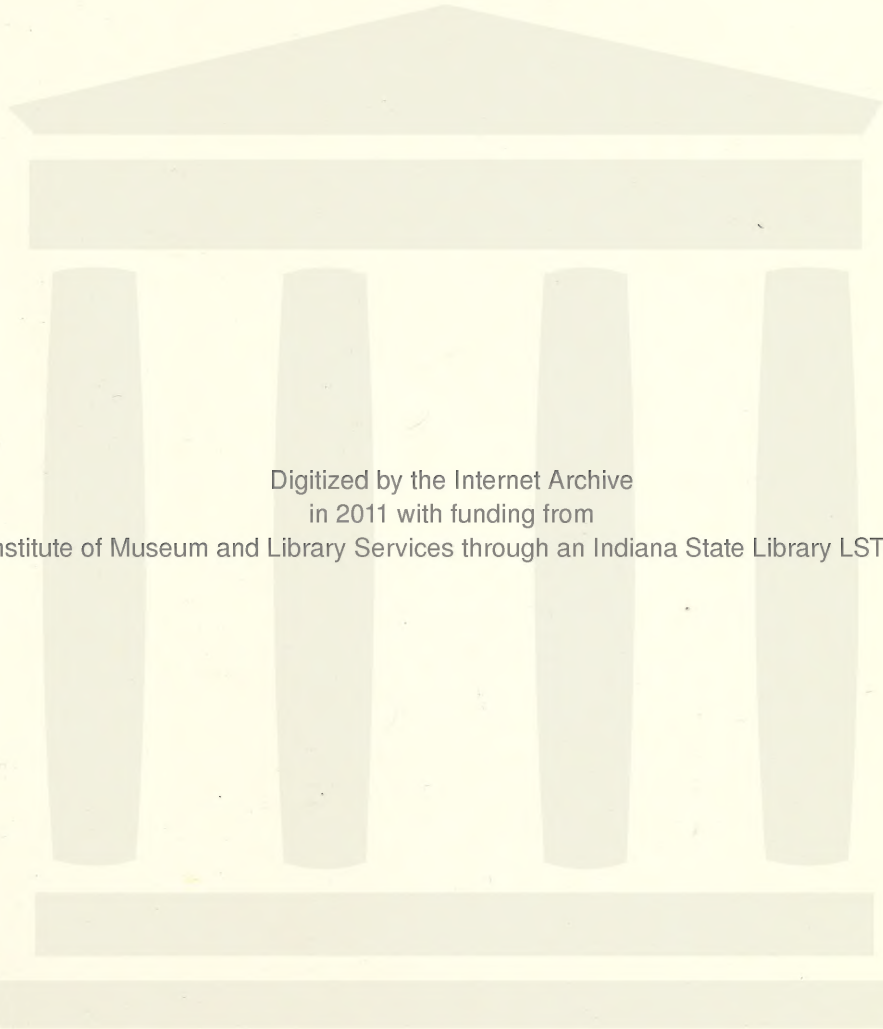


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EXECUTIVE DOCUMENTS

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THE HOUSE OF REPRESENTATIVES,

DURING THE

SECOND SESSION OF THE THIRTY-NINTH CONGRESS,

1866-'67.

IN SIXTEEN VOLUMES.

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Volume 2.....	No. 1. Interior.
Volume 3.....	No. 1. War.
Volume 4.....	No. 1. Navy, Postmaster General, and No. 2.
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THE EXECUTIVE DOCUMENTS

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SURVEY OF ROCK AND ILLINOIS RIVERS.

LETTER

FROM

THE SECRETARY OF WAR,

IN ANSWER TO

A resolution of the House of January 3, transmitting a report on the subject of the surveys of the Rock and Illinois rivers.

JANUARY 8, 1867.—Referred to the Committee on Commerce and ordered to be printed.

WAR DEPARTMENT,
Washington City, January 7, 1867.

SIR: In reply to a resolution of the House of Representatives of January 3, 1867, respecting the surveys of the Rock and Illinois rivers, ordered at the last session of Congress, I have the honor to transmit herewith the Chief of Engineer's report of January 7, 1867, on the subject.

Very respectfully, sir, your obedient servant,

EDWIN M. STANTON,
Secretary of War.

Hon. SCHUYLER COLFAX,
Speaker of the House of Representatives.

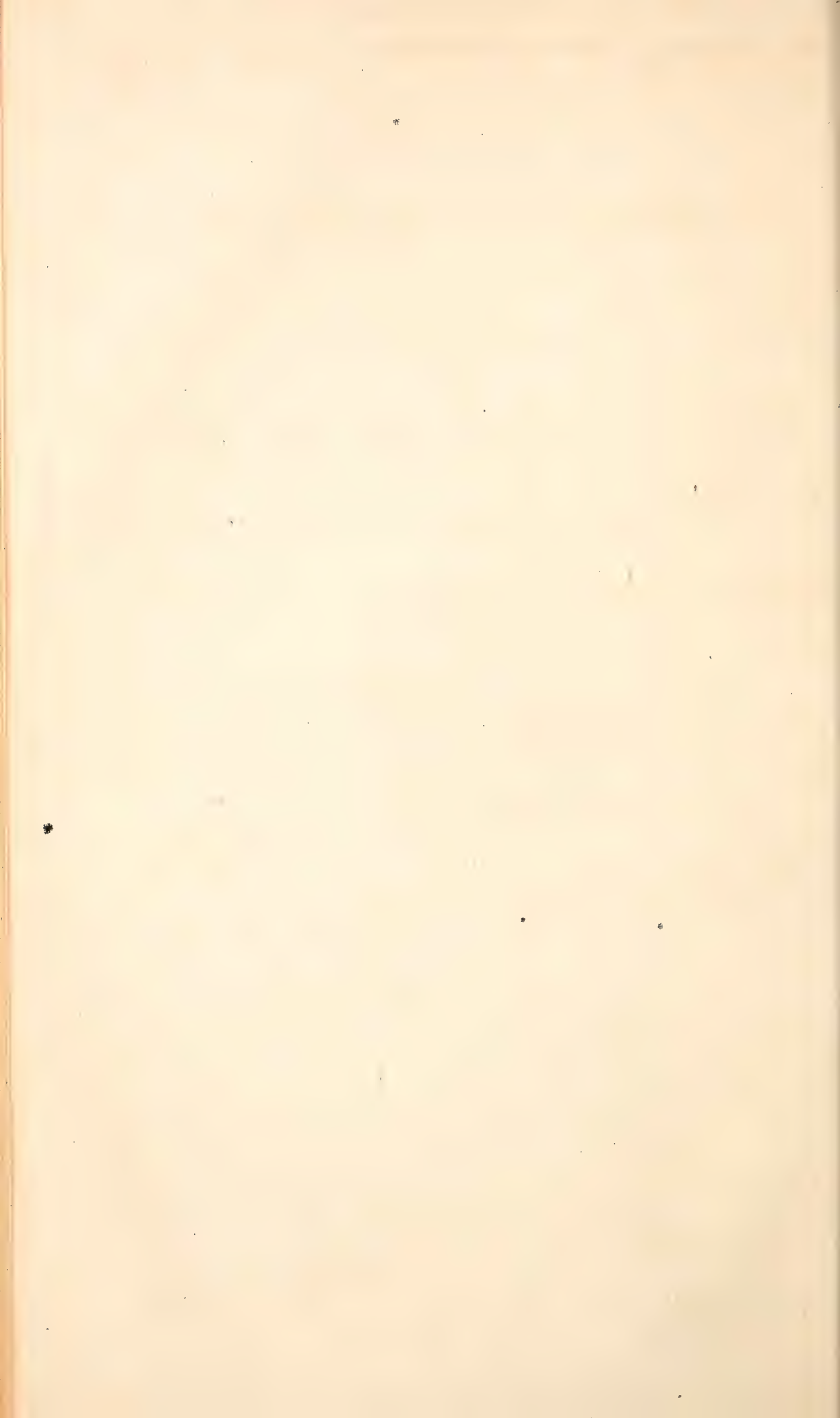
ENGINEER DEPARTMENT,
Washington, January 7, 1867.

SIR: I respectfully return herewith the resolution of the United States House of Representatives of the 3d instant, calling for information as to the progress of the surveys of the Rock and Illinois rivers, &c., and the names of the officers to whom said surveys have been intrusted, and beg leave to state that the surveys in question were intrusted to the charge of Brevet Major General J. H. Wilson, United States army, late captain of engineers, now lieutenant colonel of thirty-fifth United States infantry, who reports that the field-notes of the surveys under his charge have been completed, and that his preliminary reports and recommendations will be submitted by the 15th of January, but it will require two or three months longer to work up the maps and plans in detail.

Very respectfully, your obedient servant,

A. A. HUMPHREYS,
Chief of Engineers.

Hon. E. M. STANTON, *Secretary of War.*



PURCHASES BY THE ORDNANCE DEPARTMENT.

LETTER

FROM

THE SECRETARY OF WAR,

TRANSMITTING

In compliance with the acts of April 21, 1808, and March 3, 1809, statements of purchases made by the Ordnance office, during the year ending December 31, 1866.

JANUARY 8, 1867.—Laid on the table and ordered to be printed.

WAR DEPARTMENT,
Washington City, January 4, 1867.

SIR: In compliance with the requirements of the acts of 21st April, 1808, and 3d March, 1809, I have the honor to transmit herewith statements by the Chief of Ordnance, showing the orders given and purchases made by the Ordnance office during the calendar year ending December 31, 1866.

Very respectfully, sir, your obedient servant,

EDWIN M. STANTON,
Secretary of War.

Hon. SCHUYLER COLFAX,
Speaker of the House of Representatives.

Statement of contracts made by the Ordnance department during the year ending December 31, 1866.

Names of contractors.	Articles contracted for.	Place of delivery.	No. or quantity.	Price, per piece or pound.	Amount.	Contract.	
						Date.	Termination.
Class one—Cannon.							
Cyrus Alger & Co	13-inch Rodman gun	Boston.....	1	.....	\$6,500 00	Mar. 14, 1866	.....
Builders Iron Company	10-inch Rodman gun	Providence	1	.....	1,665 00	Mar. 24, 1866	.....
Charles Knap	10-inch Rodman guns	Pittsburg	110	\$1,650 00	181,500 00	June 12, 1866	Dec. 31, 1866.
Cyrus Alger & Co	10-inch Rodman guns	Boston	50	1,650 00	82,500 00	June 12, 1866	Dec. 31, 1866.
Seyfert, McManus & Co	10-inch Rodman guns	Reading	45	1,650 00	74,250 00	June 12, 1866	Dec. 31, 1866.
Robert P. Parrott	10-inch Rodman guns	Cold Spring	45	1,650 00	74,250 00	June 12, 1866	Dec. 31, 1866.
Cyrus Alger & Co	13-inch Rodman gun	Boston	1	.....	5,300 00	June 30, 1866	.....
Talbot, Jones & Co	1-inch Gatling guns	Indianapolis	50	2,000 00	100,000 00	Aug. 24, 1866	Aug. 24, 1867.
Talbot, Jones & Co	1-inch Gatling guns	Indianapolis	50	1,500 00	75,000 00	Aug. 24, 1866	Aug. 24, 1867.
Class four—Projectiles.							
Cyrus Alger & Co	15-inch shot.....	Boston.....	2,000	7	62,720 00	June 21, 1866	.....
Charles Knap	13-inch shot	Pittsburg	200	5½	3,254 50	Oct. 25, 1866	.....
Class eight—Cartridges.							
Fitch, Van Vechten & Co	Metallic cartridges	New York	100,000	19 50	1,950 00	June 21, 1866	.....
Fitch, Van Vechten & Co	Metallic cartridges	New York	500,000	19 50	9,750 00	Oct. 22, 1866	.....
Class nine—Miscellaneous.							
Grant & Pierce	New magazine.....	Washington.....	1	.....	9,431 67	May 17, 1866	.....
Horatio Ames	Reaming up 7-inch gun	Falls Village	1	.....	300 00	Nov. 17, 1866	.....
Class ten—Parts of classes.							
Cooper, Hewett & Co	Shoes and caps for gun carriages	New York	2,400	Per lb. 6½	11,766 27	July 13, 1866	.....
Samuel J. Reeves	One set of wheels .....	.....	.....	.....	.....	Sept. 28, 1866	.....
Hutchins Sons	One set of wheels .....	.....	.....	.....	.....	Sept. 28, 1866	.....
Phoenix Iron Company	15-inch chassis rails	Phoenixville	1,000	Per lb. 6	.....	June 22, 1866	.....

ORDNANCE OFFICE, War Department, December 31, 1866.

A. B. DYER,
Brevet Major General, Chief of Ordnance.

STATEMENT

OF

PURCHASES MADE BY THE CHIEF OF ORDNANCE,

UNDER THE DIRECTION OF

THE SECRETARY OF WAR,

DURING THE YEAR 1866.

Statement of purchases made by the Chief of Ordnance, under the direction of the Secretary of War, during the year 1866, furnished in compliance with the fifth section of the act for the establishment and regulation of the War Department, approved March 3, 1809.

Date.		From whom purchased.		PART 1—CLASS 1.															
				Names.		Residence.		3-inch wrought-iron rifle guns.		10-inch Rodman guns, model 1861.				13-inch Rodman guns, model 1861.				15-inch Rodman guns, model 1861.	
										Quantity.		Amount.		Quantity.		Amount.			
				Quantity.		Amount.		Quantity.		Amount.		Quantity.		Amount.					
				No.	Weight.	No.	Weight.	No.	Weight.	No.	Weight.	No.	Weight.	No.	Weight.				
1866. Jan.	15	Cyrus Alger & Co	Boston					5	75,560	\$9,067 20				5	247,358	\$35,000 00			
	17	Robert P. Parrott.	Cold Spring		*			5	74,836	8,980 32									
		Proof.								111 66									
Feb.	24	Robert P. Parrott.	Cold Spring																
		Proof.																	
	26	Cyrus Alger & Co	Boston					2	30,150	3,618 00				2	98,836	14,000 00			
	27	Cyrus Alger & Co	Boston					2	30,140	3,330 00				2	99,640	13,000 00			
	2	Charles Knap	Pittsburg																
		Proof.																	
	2	Charles Knap	Pittsburg					8	119,650	14,358 00									
		Proof.																	
	8	Samuel J. Reeves.	Philadelphia.																
	14	Robert P. Parrott.	Cold Spring	15	12,240	\$6,750 00		11	164,559	18,315 00									
	21	Cyrus Alger & Co	Boston					3	45,290	4,995 00				3	148,636	19,500 00			
	23	Charles Knap.	Pittsburg																
		Bushing, &c																	
	23	Charles Knap	Pittsburg					11	164,883	18,315 00									
		Proof.		*						239 08									
	27	Robert P. Parrott.	Cold Spring					4	59,673	6,660 00									
		Proof.								89 35									
	6	Charles Knap	Pittsburg											3	148,970	21,000 00			
		Proof.														181 68			
	6	Charles Knap	Pittsburg											3	148,780	19,500 00			
March	12	Charles Knap	Pittsburg					9	134,860	14,985 00							181 68		
		Proof.																	
	13	Seyfert, McManus & Co	Reading					10	151,200	16,650 00									
		Proof.								219 07									
	14	Charles Knap	Pittsburg											5	247,835	35,000 00			
		Proof.														302 81			
	14	Charles Knap	Pittsburg											1	49,670	6,500 00			
		Proof.														6 56			
	20	Cyrus Alger & Co	Boston											7	346,012	45,500 00			
	23	Cyrus Alger & Co	Boston					9	135,860	14,985 00									

PURCHASES BY THE ORDNANCE DEPARTMENT.

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PURCHASES BY THE ORDNANCE DEPARTMENT.

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Nov.	8	Seyfert, McManus & Co.	Reading	15	228, 032	24, 750 00	1	49, 650	6, 500 00
	10	Charles Knap	Pittsburg						60 94
		Proof							
	10	Charles Knap	Pittsburg	12	179, 625	19, 800 00			
	28	Cyrus Alger & Co	Boston	10	151, 620	16, 500 00			
	28	Robert P. Parrott	Cold Spring	11	162, 267	18, 150 00			
Dec.	9	Seyfert, McManus & Co.	Reading	1	15, 260	1, 665 00			
		Proof				21 91			
	14	Cyrus Alger & Co	Boston				1	38, 500	
	17	Cyrus Alger & Co	Boston	6	90, 710	9, 900 00			
	31	Charles Knap	Pittsburg	12	179, 775	19, 800 00			
	31	Charles Knap	Pittsburg	12	179, 765	19, 800 00			
		Total		371	5, 551, 791	621, 796 06	2	89, 948	517, 289 79
							78	3, 864, 488	

Nov.	8	Seyfert, McManus & Co.	Reading	2	8,373	\$1,118 50	10	268,348	\$49,490 00	10	35,875	\$4,808 75	Nov. 5, 1866	Reading	24,750 00
	10	Charles Knap	Pittsburg										Nov. 5, 1866	Pittsburg	6,560 94
	10	Proof	Pittsburg										Nov. 5, 1866	Pittsburg	19,800 00
	28	Charles Knap	Boston										Nov. 21, 1866	Boston	16,500 00
	28	Cyrus Alger & Co	Boston										Nov. 26, 1866	Cold Spring	18,150 00
Dec.	9	Robert P. Parrott	Cold Spring										Nov. 28, 1866	Reading	1,686 91
	14	Seyfert, McManus & Co.	Reading										Dec. 10, 1866	Boston	5,300 00
	14	Proof	Boston										Dec. 11, 1866	Boston	9,900 00
	17	Cyrus Alger & Co	Boston										Dec. 13, 1866	Pittsburg	19,800 00
	31	Cyrus Alger & Co	Pittsburg										Dec. 14, 1866	Pittsburg	19,800 00
	31	Charles Knap	Pittsburg												
	31	Charles Knap	Pittsburg												
		Total		2	8,373	\$1,118 50	10	268,348	\$49,490 00	10	35,875	\$4,808 75			1,220,253 10

Statement of purchases made by the Chief of Ordnance, under the direction of the Secretary of War, during the year 1866, &c.—Continued.

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Statement of purchases made by the Chief of Ordnance, under the direc

Date.	From whom purchased.		PART 1—CLASS 6.			
	Names.	Residence.	Remington carbine, calibre 50.		Spencer carbine, calibre 50.	
			No.	Amount.	No.	Amount.
1866.						
Jan. 5	Spencer Rifle Company.....	Boston.....			1,000	\$25,595 00
	Cases.....					337 50
6	E. Remington & Sons.....	Ilion.....				
	E. Remington & Sons.....	Ilion.....				
	Cases.....					
8	E. Remington & Sons.....	Ilion.....	1,007	\$23,161 00		
	Cases.....			344 00		
24	E. Remington & Sons.....	Ilion.....	1,000	23,000 00		
	Cases.....			337 00		
Feb. 3	E. Remington & Sons.....	Ilion.....	1,000	23,000 00		
	Cases.....			337 00		
5	E. Remington & Sons.....	Ilion.....				
	E. Remington & Sons.....	Ilion.....				
	Cases.....					
23	E. Remington & Sons.....	Ilion.....	1,000	23,000 00		
	Cases.....			337 00		
26	E. Remington & Sons.....	Ilion.....				
	E. Remington & Sons.....	Ilion.....				
	Cases.....					
March 7	E. Remington & Sons.....	Ilion.....	1,000	23,000 00		
	Cases.....			337 00		
19	Herman Boker & Co.....	New York.....				
	Cases.....					
23	E. Remington & Sons.....	Ilion.....	1,000	23,000 00		
	Cases.....			337 00		
24	E. Remington & Sons.....	Ilion.....				
	E. Remington & Sons.....	Ilion.....				
	Cases.....					
April 6	E. Remington & Sons.....	Ilion.....	1,000	23,000 00		
	Cases.....			337 00		
May 10	E. Remington & Sons.....	Ilion.....	1,001	23,023 00		
	Cases.....			337 00		
28	E. Remington & Sons.....	Ilion.....	992	22,816 00		
	Cases.....			337 00		
31	E. G. Lamson & Co.....	Windsor.....				
	Cases.....					
	Total.....		9,000	210,040 00	1,000	25,932 50

tion of the Secretary of War, during the year 1866, &c.—Continued.

PART 1—CLASS 6.						Delivered.		Amount.
Ball's carbine, calibre 50.		Springfield rifle mus- ket, calibre 58.		Light cavalry sabres.		Date.	Place.	
No.	Amount.	No.	Amount.	No.	Amount.			
						Jan. 1, 1866	Boston	\$25, 932 50
		700	\$12, 600 00					
		300	4, 500 00			Dec. 29, 1865	Ilion	17, 469 75
			369 75					
						Jan. 5, 1866	Ilion	23, 505 00
						Jan. 20, 1866	Ilion	23, 337 00
						Feb. 1, 1866	Ilion	23, 337 00
		600	10, 800 00					
		400	6, 000 00			Jan. 31, 1866	Ilion	17, 169 75
			369 75			Feb. 19, 1866	Ilion	23, 337 00
		600	10, 800 00			Feb. 23, 1866	Ilion	17, 169 75
		400	6, 000 00			Mar. 5, 1866	Ilion	23, 337 00
			369 75	400	\$2, 100 00	Mar. 12, 1866	New York	2, 116 00
					16 00	Mar. 21, 1866	Ilion	23, 337 00
		639	11, 502 00			Mar. 24, 1866	Ilion	17, 286 75
		361	5, 415 00			April 6, 1866	Ilion	23, 337 00
			369 75			April 27, 1866	Ilion	23, 360 00
						May 24, 1866	Ilion	23, 153 00
1, 002	\$25, 050 00					May 14, 1866	Windsor	25, 387 00
	337 00							
1, 002	25, 387 00	4, 000	69, 096 00	400	2, 116 00			332, 571 50

Statement of purchases made by the Chief of Ordnance, under the direction of the Secretary of War, during the year 1866, &c.—Continued.

Date.		From whom purchased.		Residence.		Spencer carbine cartridges, calibre 50.			Remington carbine cartridges, calibre 44.			Metallic cartridges, calibre 58.			Rifle powder, pounds.		
		Names.		Residence.		Quantity.		Amount.	Quantity.		Amount.	Quantity.		Amount.	Quantity.		
						No.	Weight.		No.	Weight.		No.	Weight.		No.	Weight.	
1866.	2	Sage Ammunition Co	Middletown	403, 100				\$8, 870 40									
Jan.		Cases						300 00									
	9	Fitch, Van Vechten & Co.	New York	100, 800				2, 016 00									
		Cases						75 00									
	10	Jacob Goldmark	New York	202, 608				4, 238 56									
		Cases						150 75									
	10	Jacob Goldmark	New York	60, 480				1, 265 24									
		Cases						45 00									
	10	Jacob Goldmark	New York	100, 800				2, 108 74									
		Cases						75 00									
	13	Jacob Goldmark	New York	100, 800				2, 108 73									
		Cases						75 00									
	15	Sage Ammunition Co	Middletown	302, 400				6, 632 80									
		Cases						225 00									
	20	Sage Ammunition Co	Middletown	201, 600				4, 435 20									
		Cases						150 00									
	31	Crittenden & Tibballs	South Coventry					1, 060, 000			\$15, 900 00						
		Cases						397 50									
Feb.	1	Sage Ammunition Co	Middletown	504, 000				11, 088 00									
		Cases						375 00									
	1	Sage Ammunition Co	Middletown	201, 600				4, 435 20									
		Cases						150 00									
	1	Jacob Goldmark	New York	100, 800				2, 108 74									
		Cases						75 00									
	1	Jacob Goldmark	New York	201, 600				4, 217 47									
		Cases						150 00									
	5	Fitch, Van Vechten & Co.	New York	50, 400				1, 008 00									
		Cases						37 50									
	5	Fitch, Van Vechten & Co.	New York	68, 544				1, 370 88									
		Cases						51 00									
	14	Hazard Powder Co	New York														
	19	Sage Ammunition Co	New York	664, 272				14, 613 98									
		Cases						494 25									
	24	Clifford Arick	Washington												6, 000	\$2, 040 00	

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Statement of purchases made by the Chief of Ordnance, under the direction of the Secretary of War, during the year 1866, &c.—Continued.

From whom purchased.			PART 1—CLASS 8.						Delivered.			
Date.	Names.		Residence.	Fuzes.		Miscellaneous powder, pounds.		Cannon powder, pounds.		Date.	Place.	Amount.
				Quantity.	Amount.	Quantity.		Amount.				
						No.	Weight.		No.				Weight.
1866.												
Jan.	2	Sage Ammunition Co Cases	Middletown							Dec. 26, 1865	Middletown	\$9, 170 40
	9	Fitch, Van Vechten & Co. Cases	New York							Jan. 5, 1866	New York	2, 091 00
	10	Jacob Goldmark Cases	New York							Dec. 29, 1865	New York	4, 389 31
	10	Jacob Goldmark Cases	New York							Dec. 30, 1865	New York	1, 310 24
	10	Jacob Goldmark Cases	New York							Nov. 28, 1865	New York	2, 183 74
	13	Jacob Goldmark Cases	New York							Jan. 8, 1866	New York	2, 183 73
	15	Sage Ammunition Co Cases	Middletown							Jan. 8, 1866	Middletown	6, 877 80
	20	Sage Ammunition Co Cases	Middletown							Jan. 11, 1866	Middletown	4, 585 20
	31	Crittenden & Tibbals Cases	South Coventry							Jan. 23, 1866	South Coventry	16, 297 50
Feb.	1	Sage Ammunition Co Cases	Middletown							Jan. 22, 1866	Middletown	11, 463 00
	1	Sage Ammunition Co Cases	Middletown							Jan. 25, 1866	Middletown	4, 585 20
	1	Jacob Goldmark Cases	New York							Jan. 17, 1866	New York	2, 183 74
	1	Jacob Goldmark Cases	New York							Jan. 27, 1866	New York	4, 367 47
	5	Fitch, Van Vechten & Co. Cases	New York							Jan. 18, 1866	New York	1, 045 50
	5	Fitch, Van Vechten & Co. Cases	New York							Jan. 29, 1866	New York	1, 421 88
	14	Hazard Powder Co Cases	New York							Feb. 3, 1866	New York	2, 040 00
	19	Sage Ammunition Co Cases	New York							Feb. 10, 1866	New York	15, 108 23
	24	Clifford Arick Cases	Washington	130		\$79 40				Feb. 26, 1866	Washington	79 40

PURCHASES BY THE ORDNANCE DEPARTMENT.

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Statement of purchases made by the Chief of Ordnance, under the direction of the Secretary of War, during the year 1866, &c.—Continued.

From whom purchased.			PART 1—CLASS 10.									
Date.	Names.	Residence.	Spare parts of small-arms.		Leather scabbards for non-commissioned officers' swords.		Chassis rails for iron gun-carriages.		Breech sights for cannon.			
			Quantity.		Amount.	Quantity.		Amount.	Quantity.			
			No.	Weight.		No.	Feet.		No.	Weight.		
1866.												
Feb. 7	Spencer Rifle Company	Boston			\$15,037 31							
28	Christopher Roby	West Chelmsford				1,000	\$1,500 00					
	Cases.						10 00					
March 23	Palmer, Wadsworth & Co.	Buffalo										
26	Sharp's Arms Company	Hartford										
April 6	Robert P. Parrott	Cold Spring			1,765 25			300	4,800	\$22,800 00		
13	Palmer, Wadsworth & Co.	Buffalo										
17	Palmer, Wadsworth & Co.	Buffalo										
17	E. Remington & Sons	Ilion			415 20			700	11,200	53,200 00	2	
May 10	Sharp's Arms Company	Hartford						6	96	456 00		
June 19	Sharp's Arms Company	Hartford			1,266 50							
July 10	Sharp's Arms Company	Hartford			4,352 73							
Oct. 17	Cooper, Hewett & Co.	New York			465 00							
24	Cooper, Hewett & Co.	New York										
29	Cooper, Hewett & Co.	New York										
Nov. 8	E. Remington & Sons	Ilion			446 50							
	Total				23,748 49	1,000		1,006	16,096	76,456 00	2	
											8 50	

Statement of purchases made by the Chief of Ordnance, under the direction of the Secretary of War, during the year 1866, &c.—Continued.

From whom purchased.		PART 1—CLASS 10.						Delivered.		Amount.	
Date.	Names.	Residence.	Elevating screws for cannon.		Shoes and caps for sea-coast carriages.		Date.	Place.			
			Quantity.		Amount.	Quantity.			Amount.		
			No.	Weight.		No.					Weight.
1866.	Spencer Rifle Company	Boston					Jan. 31, 1866	Boston	\$15,037 31		
Feb. 7	Christopher Roby	West Chelmsford					Feb. 17, 1866	Washington	1,510 00		
28	Cases						Mar. 12, 1866	Buffalo	22,800 00		
March 23	Palmer, Wadsworth & Co.	Buffalo					Mar. 19, 1866	Hartford	1,765 25		
26	Sharp's Arms Company	Hartford					April 2, 1866	Cold Spring	78 50		
April 6	Robert P. Parrott	Cold Spring	2		\$70 00		April 4, 1866	Buffalo	53,200 00		
13	Palmer, Wadsworth & Co.	Buffalo					April 11, 1866	Buffalo	456 00		
17	Palmer, Wadsworth & Co.	Buffalo					April 27, 1866	Ilion	415 20		
May 10	E. Remington & Sons	Ilion					May 5, 1866	Hartford	1,266 50		
10	Sharp's Arms Company	Hartford					June 15, 1866	Hartford	4,352 73		
19	Sharp's Arms Company	Hartford					July 7, 1866	Hartford	465 00		
June 10	Sharp's Arms Company	Hartford					Oct. 13, 1866	Trenton	5,880 81		
July 17	Cooper, Hewett & Co	New York				90,474	Oct. 11, 1866	Trenton	4,422 60		
Oct. 24	Cooper, Hewett & Co	New York				900	Oct. 18, 1866	Trenton	1,462 86		
29	Cooper, Hewett & Co	New York				300	Nov. 2, 1866	Ilion	446 50		
Nov. 8	E. Remington & Sons	Ilion									
	Total		2		70 00	181,019			113,559 26		

Statement of purchases made by the Chief of Ordnance, under the direction of the Secretary of War, during the year 1866, &c.—Continued.

From whom purchased.		PART 2—MATERIALS.						Delivered.			
Date.	Names.	Residence.	Bags for packing powder.			Repacking powder.			Date.	Place.	Amount.
			Quantity.		Amount.	Quantity.		Amount.			
			No.	Weight.		No.	Weight.				
1866. Jan. 8 12 22 Feb. 16	Smith & Rand. Phoenix Iron Company S. R. Noyes Oriental Powder Company Cases.	New York. Philadelphia. Grand Rapids. Boston							Nov. 20, 1865 Jan. 5, 1866	New York. Philadelphia.	\$9, 120 00 1, 328 60 3, 812 04
24 Nov. 6 Jan. 8 24	Empire Powder Company. James Turner & Sons. Smith & Rand. Robert P. Parrott. Total.	Fair Haven. New York. New York. Cold Spring							Jan. 1, 1866 Feb. 19, 1866 Oct. 2, 1866 Nov. 20, 1865 Jan. 17, 1866	Boston Boston New York New York New York	99, 470 12 11, 200 69 1, 006 30 2, 867 32 300 50 128, 105 57

Summary statement of purchases by the Ordnance department for the year ending December 31, 1866.

CLASS ONE.			
31 3-inch wrought-iron guns.....	\$13,950 00		
10 4.5-inch siege guns.....	4,808 75		
371 10-inch Rodman guns	621,796 06		
2 13-inch Rodman guns	11,800 00		
78 15-inch Rodman guns	517,289 79		
2 30-pound Parrott guns	1,118 50		
10 300-pound Parrott guns	49,490 00		\$1,220,253 10
CLASS FOUR.			
16,491 10-inch shot	112,621 43		
392 15-inch shot	12,447 75		
3,419 10-inch shells	21,521 50		
4,099 15-inch shells	83,098 88		
15 20-inch shells	954 22		
16 Eureka shells.....	38 50		230,682 28
CLASS SIX.			
9,000 Remington carbines.....	210,040 00		
1,000 Spencer carbines	25,932 50		
1,002 Ball's carbines.....	25,387 00		
4,000 Springfield rifles.....	69,096 00		
400 light cavalry sabres.....	2,116 00		332,571 50
CLASS EIGHT.			
10,648,412 Spencer cartridges, (calibre 50).....	222,028 25		
1,060,000 Remington cartridges, (calibre 44)	16,297 50		
301,000 rifle cartridges, (calibre 58).....	6,095 25		
6,000 pounds rifle powder.....	2,040 00		
1,000 pounds cannon powder.....	300 00		
7,700 pounds miscellaneous powder	2,413 50		
130 fuzes	79 40		249,253 90
CLASS TEN.			
Spare parts of small-arms	23,748 49		
1,000 leather scabbards	1,510 00		
2 breech sights	8 50		
2 elevating screws.....	70 00		
1,006 chassis rails for carriages	76,456 00		
2,400 shoes and caps for carriages	11,766 27		113,559 26
MATERIALS.			
406,400 pounds saltpetre	119,790 81		
14 iron beams	1,328 60		
59,837 feet of lumber	3,812 04		
347 gallons of oil	1,006 30		
2,423 powder bags	1,514 37		
Packing powder	352 95		
1 wooden platform	300 50		128,105 57
Total.....			2,274,425 61

A. B. DYER,

Brevet Major General, Chief of Ordnance.

ORDNANCE OFFICE, War Department, January 2, 1867.

CONTRACTS BY THE QUARTERMASTER GENERAL.

LETTER

FROM

THE SECRETARY OF WAR,

TRANSMITTING,

In compliance with the acts of April 21, 1808, and July 17, 1862, a statement of contracts made by the Quartermaster General from July 1, 1866, to December 31, 1866.

JANUARY 8, 1867.—Laid on the table and ordered to be printed.

WAR DEPARTMENT,
Washington City, January 7, 1867.

SIR : In compliance with the requirements of the acts of April 21, 1808, and of July 17, 1862, I have the honor to transmit herewith the Quartermaster General's statement of contracts made by his department from July 1, 1866, till December 31, 1866.

Very respectfully, sir, your obedient servant,

EDWIN M. STANTON,
Secretary of War.

Hon. SCHUYLER COLFAX,
Speaker of the House of Representatives.

Abstract of contracts made by the Quartermaster's department from July 1 to December 31, 1866, and those made prior thereto but not received in time to be included in the last report.

No.	Place and date.	Parties.	Nature of contract.	Bond.
362	Tucson, A. T., May 11, 1866	Capt. C. G. Smith and John B. Allen	For 500,000 pounds of grain, at 6½ cents per pound, in coin.	\$10,000 00
363	Tucson, A. T., May 11, 1866	Capt. C. G. Smith and J. G. Capron	For 600,000 pounds of hay, at 1½ cents per pound, in coin.	5,000 00
364	Salt Lake City, N. T., June 13, 1866	Capt. E. B. Grimes and T. A. Jamney	For 2,000 cords of wood, at \$13 65 per cord.	7,000 00
365	Denver, C. T., June 12, 1866	Col. J. B. Howard and James Martin	For 1,113 cords of wood, (pine,) at \$24 95 per cord.	28,000 00
366	Richmond, Va., June 21, 1866	Gen. Wm. L. James and J. R. Echols & Co.	For hard wood as required, at \$5 75 per cord.	1,000 00
367	Richmond, Va., June 11, 1866	Gen. Wm. L. James and M. Marshall	For pine wood as required, at \$4 50 per cord.	2,000 00
368	St. Louis, Mo., June 20, 1866	Capt. Geo. P. Webster and E. B. Kirby	For 30 tons baled hay, at \$16 per ton; 15 tons loose hay, at \$14 per ton.	200 00
369	Fort Kearney, N. T., May 24, 1866	Capt. Geo. P. Ladd and J. H. Moffitt	For charcoal as required, at 50 cents per bushel.	4,000 00
370	Fort Steilacoom, W. T., Jan. 2, 1866	Lieut. A. C. Kistler and F. A. Clark	For 20 tons oat straw, at \$20 per ton, in coin.	800 00
371	Philadelphia, Pa., June 23, 1866	Capt. Geo. R. Orme and P. R. Cummings	For corn, at \$1 15 per bushel; oats, 80 cents per bushel; hay, \$1 45 per 100 pounds; straw, \$1 65 per 100 pounds.	5,000 00
372	San Antonio, Texas, June 21, 1866	Lieut. Col. H. C. Ransom and J. M. Hunter	For 6,000 bushels corn, at \$1 19 per bushel.	3,000 00
373	Richmond, Va., June 10, 1866	Gen. Wm. L. James and A. P. Rowe	For wood as required, at \$5 90 per cord.	1,000 00
374	Saint Louis, Mo., July 9, 1866	Col. Geo. P. Webster and E. O. Stannard & Co.	For 100 tons baled hay, at \$14 70 per ton.	500 00
375	Galveston, Texas, June 1, 1866	Col. S. H. Manning and S. O. Carroll	For wood as required, at \$7 50 per cord.	5,000 00
376	St. Louis, Mo., June 22, 1866	Capt. Geo. P. Ladd and H. B. Hine	For 18,000 bushels corn, at \$1 58 per bushel.	10,000 00
377	Fort Riley, Kansas, June 23, 1866	Capt. R. B. Owen and G. W. Higginbotham	For 5,000 bushels corn, at 77½ cents per bushel.	2,000 00
378	Fort Riley, Kansas, June 23, 1866	Capt. R. B. Owen and J. W. Pipher	For 6,000 bushels corn, at 83 cents per bushel.	3,000 00
379	Louisville, Ky., May 28, 1866	Capt. J. H. Belcher and Startzman & Wright	For 3,400 headboards, at 30 cents each.	600 00
380	Cincinnati, Ohio, Jan. 12, 1866	Capt. J. P. Drennan and S. B. Johnston & Co.	For packing cases as required, at 70 cents to \$3 79 each, as per schedule with contract.	35,000 00
381	Denver, C. T., June 16, 1866	Col. J. B. Howard and W. L. K. Kendal	For 1,916 cords of wood, at \$8 90 per cord.	1,500 00
382	New Orleans, La., June 28, 1866	Lieut. Col. E. J. Strang and Henry Otis	For 150 packing boxes, at \$3 90 each.	3,000 00
383	Vicksburg, Miss., June 22, 1866	Gen. H. M. Whittlesey and Thos. Treahy	For hauling government stores, at 35 cents per load, and 75 cents per cord for wood.	-----
384	Newport Barracks, Ky., June 14, 1866	Lieut. John E. Cooper and Bly & Co., by W. Forbes.	For emptying sinks or vaults in Newport Barracks, Kentucky, at \$6 per load.	-----
385	Washington, D. C., June 23, 1866	Gen. D. H. Rucker and Blake & Higgins	For apparatus for heating Ford's Theatre, \$3,958.	-----
386	Camp Douglas, W. T., June 30, 1866	Capt. E. B. Grimes and Hugh Findlay	For lime as required, at \$1 25 per bushel.	1,000 00
387	Camp Douglas, W. T., May 23, 1866	Capt. E. B. Grimes and Wm. Gilbert	For 16,000 feet pine lumber, at \$80 per 1,000 feet.	4,427 00
388	Chattanooga, Tenn., May 18, 1866	Major W. A. Wainwright and W. R. Cornelius	For headboards as required, at 75 cents each.	3,000 00
389	Washington, D. C., May 30, 1866	Col. M. I. Ludington and Jones & Collins	For constructing a vault in Arlington Cemetery, Virginia, \$2,175.	4,000 00
390	Chicago, Ill., May 15, 1866	Col. L. H. Pierce and J. F. Robinson	For building 6,000 feet of fence, at \$4 88 per rod.	1,500 00
391	Nashville, Tenn., May 24, 1866	Capt. G. W. Marshall and J. W. Rumsey	For building a cemetery fence, at 98 cents per lineal foot.	4,500 00
392	Detroit, Mich., May 1, 1866	Gen. C. H. Hoyt and R. H. Hall	For lease of buildings and lots in Detroit, Michigan, at \$200 per month.	-----
393	St. Louis, Mo., June 1, 1866	Capt. John L. Wood and Ticknor & Co.	For lease of buildings and lots in St. Louis, Missouri, at \$50 per month.	-----
394	Chattanooga, Tenn., June 1, 1866	Major W. A. Wainwright and Lewis Spitzer & Co.	For erecting a building at National Cemetery, Chattanooga, Tennessee, \$600.	-----
395	Fort McPherson, N. T., May 23, 1866	Major W. H. Daniels and John Burke	For 3,000 cedar and 600 cottonwood logs, at \$42 per M feet.	5,000 00
396	Camden, Ark., March 19, 1866	Capt. Samuel Baird and Catherine H. Wood	For lease of building and lot in Camden, Arkansas, at \$33 per month.	-----

Abstract of contracts made by the Quartermaster's department, &c.—Continued.

No.	Place and date.	Parties.	Nature of contract.	Bond.
414	Fort Laramie, D. T., July 26, 1866.....	Col. G. B. Dandy and B. B. Mills.....	For 1,200 tons of hay, at \$25 per ton, unbaled; \$30 per ton baled.	\$15,000 00
415	St. Louis, Mo., July 16, 1866.....	Col. George P. Webster and John Fletcher.....	For 10,000 bushels of oats, at 44 9-10 cents per bushel.....	1,000 00
416	Denver, C. T., July 11, 1866.....	Col. John B. Howard and James Martin.....	For 100,000 pounds of corn, at \$6 45 per 100 pounds.....	7,000 00
417	Fort Riley, Kansas, July 6, 1866.....	Capt. R. B. Owen and G. W. Higginbotham.....	For 1,000 bushels of corn, at 91 cents per bushel.....	500 00
418	Fort Riley, Kansas, July 6, 1866.....	Capt. R. B. Owen and J. A. Johnson.....	For 1,500 bushels of corn, at 76 cents per bushel.....	570 00
419	Fort Riley, Kansas, July 6, 1866.....	Capt. R. B. Owen and E. Dillbrough.....	For 2,000 bushels of corn, at 83 cents per bushel.....	800 00
420	St. Louis, Mo., June 9, 1866.....	Gen. Wm. Myers and J. G. Copelin.....	For transportation of quartermaster and subsistence stores as follows: From Omaha, Nebraska Territory, to Fort Randall, Dakota Territory, 21 tons, at 3 cents per pound; from Omaha to Fort Sully, 25 tons, at 6 cents per pound; from Omaha, Nebraska Territory, to Fort Rice, Dakota Territory, 14 tons, at 7 cents per pound; from Omaha to Fort Berthold, 2 tons, at 8 cents per pound; from Omaha, Nebraska Territory, to Fort Union, Dakota Territory, 7 tons, at 10 cents per pound; from Omaha to Fort Benton, 230 tons, at 21 cents per pound, provided the stores can be transported by steamboat to Cow Island. But should the contractors be compelled to wagon the stores from the mouth of Milk river, he shall be allowed 23 cents per pound; or should he be compelled to wagon them from Fort Charles, or points below there, he shall be allowed 25 cents per pound. For 50,000 bushels of shelled corn, at 74½ cents per bushel.....	20,000 00
421	St. Louis Mo., June 21, 1866.....	Gen. Wm. Myers and J. W. Paddock.....	For 2,000 bushels of shelled corn, at 66½ cents per bushel.....	8,000 00
422	St. Louis, Mo., June 21, 1866.....	Gen. Wm. Myers and Uriah Bruner.....	For 2,000 bushels of shelled corn, at 68 cents per bushel.....	1,000 00
423	St. Louis, Mo., June 20, 1866.....	Gen. Wm. Myers and Enos Lowe.....	For 500 bushels of oats, at 65 cents per bushel.....	1,000 00
424	St. Louis, Mo., June 22, 1866.....	Gen. Wm. Myers and Joseph Welch.....	For making 500 coffins, at \$1 85 each.....	800 00
425	Nashville, Tenn., July 23, 1866.....	Major A. W. Wills and Rich. Snow, Larned & Co.....	Lease of premises 214 Main street, Buffalo, New York, at \$35 per month.....	.....
426	Buffalo, N. Y., June 30, 1866.....	Col. R. Saxton and Wm. Van Dohn.....	Lease of premises 36 Carroll street, Buffalo, New York, at \$15 per month.....	.....
427	Buffalo, N. Y., June 30, 1866.....	Col. R. Saxton and Wm. A. Ford.....	For anthracite coal as required, at \$11 75 per ton.....	100,000 00
428	Philadelphia, Pa., March 23, 1865.....	Capt. George R. Orme and J. C. Wright.....	For 2,000 bushels lime, at 64 cents per bushel.....	.....
429	Washington, D. C., June 5, 1866.....	Capt. D. H. Rucker and Fenwick & Stewart.....	For constructing 10,000 feet of fencing, at 43 cents per foot.....	4,000 00
430	Nashville, Tenn., July 23, 1866.....	Major A. W. Wills and Lewis, Spitzler & Co.....	For making 500 headboards, at 78 cents each.....	300 00
431	Nashville, Tenn., July 25, 1866.....	Major A. W. Wills and W. R. Cornelius.....	For 50,000 feet pine plank and scantling, at \$110 per M feet; 10,000 laths, at \$30 per M; 30,000 shingles, at \$25 per M.....	2,200 00
432	Camp Douglas, U. T., July 11, 1866.....	Capt. E. B. Grimes and Horace Wheat.....	For 150,000 shingles, at \$12 per M.....	1,000 00
433	Fort McPherson, N. T., Aug. 6, 1866.....	Lieut. G. W. Yates and W. M. Hinman.....	For 2,500 cords of wood, at \$8 25 per cord; 600,000 pounds of straw, at \$6 99 per ton, in gold.....	15,000 00
434	San Francisco, Cal., June 8, 1866.....	Capt. James T. Hoyt and A. Goodyear.....	For 2,500,000 pounds of hay, at \$11 90 per ton, in gold.....	10,000 00
435	San Francisco, Cal., June 26, 1866.....	Capt. James T. Hoyt and A. Goodyear.....	For 6,000,000 pounds of coal, at \$16 90 per ton, in gold.....	15,000 00
436	San Francisco, Cal., June 29, 1866.....	Capt. James T. Hoyt and Nicholas Brunes.....	For 800,000 pounds of oats, at \$1 47½ per 100 pounds.....	8,000 00
437	San Francisco, Cal., June 26, 1866.....	Capt. James T. Hoyt and A. H. Todd & Co.....	For 1,250,000 pounds of barley, at 99 cents per 100 pounds.....	8,000 00
438	San Francisco, Cal., June 26, 1866.....	Capt. James T. Hoyt and Rider, Somers & Co.....	For 3,125 bushels of oats, at 54 cents per bushel.....	500 00
439	St. Louis, Mo., Aug. 6, 1866.....	Col. Geo. P. Webster and J. E. B. Morgan.....	For 108 tons of hay, at \$14 40 per ton.....	500 00
440	St. Louis, Mo., Aug. 6, 1866.....	Col. Geo. P. Webster and John Fletcher.....	.....	.....

441	Augusta, Ga., Aug. 1, 1866.	Capt. C. T. Watson and Thomas S. Belt.	For hard wood as required, at \$6 50 per cord.	500 00
442	San Antonio, Texas, June 21, 1866.	Lieut. Col. H. C. Ransom and E. D. Lane.	For 10,000 bushels of old corn, at \$1 29 per bushel.	6,000 00
443	Fort Brady, Mich., Aug. 7, 1866.	Lieut. H. H. Lantz and Thomas Ryan.	For straw as required, at \$14 per ton.	2,000 00
444	Fort Brady, Mich., Aug. 7, 1866.	Lieut. H. H. Lantz and Louis P. Trempe.	For hay as required, at \$15 75 per ton.	2,000 00
445	Albuquerque, N. M., Aug. 7, 1866.	Lieut. H. H. Lantz and Louis P. Trempe.	For wood as required, at \$4 per cord.	2,000 00
446	Philadelphia, Pa., Aug. 7, 1866.	Lieut. Hugh Johnson and W. T. Strachan.	For 250 tons bottom hay, at \$26 per ton.	10,000 00
447	Philadelphia, Pa., Aug. 7, 1866.	Major George R. Orme and George C. Mitchell.	For 500 tons of coal, at \$5 98 per ton.	10,000 00
448	Omaha, N. T., Aug. 16, 1866.	Gen. Wm. Myers and J. W. Bosler.	For 5,000 bushels of corn, at \$3 50 per bushel.	5,000 00
449	Fort Riley, Kansas, Aug. 13, 1866.	Capt. R. B. Owen and J. H. Blake.	For 200 tons of hay, at \$6 95 per ton.	700 00
450	Fort Riley, Kansas, Aug. 13, 1866.	Capt. R. B. Owen and J. S. Boyd.	For 200 tons of hay, at \$5 95, and 100 tons of hay at \$6 80 per ton.	1,000 00
451	St. Louis, Mo., Aug. 11, 1866.	Capt. John L. Woods and J. S. McCune.	For 30,000 bushels bituminous coal, delivered at Jefferson bar racks, at 15 cents per bushel; 15,000 bushels bituminous coal, delivered at St. Louis, at 15½ cents per bushel.	2,000 00
452	St. Louis, Mo., Jan. 4, 1864.	Capt. L. Cass Forsyth and A. Bennett.	For 5,000 cords of wood, at \$6 48 per cord.	500 00
453	Fort Wright, Cal., June 25, 1866.	Capt. W. H. Jordan and W. H. Johnston.	For straw as required, at 2½ mills per pound, in coin.	2,000 00
454	Fort Wright, Cal., June 25, 1866.	Capt. W. H. Jordan and G. W. Henley.	For hay as required, at \$9 75 per ton, in coin; barley as required, at 9¾ cents per 100 pounds, in coin.	8,000 00
455	Fort Riley, Kansas, Aug. 30, 1866.	Capt. R. B. Owen and Evander Light.	For 1,800 cords of wood, delivered at Fort Ellsworth, Kansas, at \$7 93 per cord.	19,000 00
456	Fort Riley, Kansas, July 6, 1866.	Capt. R. B. Owen and J. W. Pipher.	For 12,000 bushels of corn, at 87 cents per bushel; 18,000 bushels of corn, at 89 cents per bushel; 13,100 bushels of corn, at 93 cents per bushel.	1,000 00
457	Fort Riley, Kansas, July 5, 1866.	Capt. R. B. Owen and E. R. Keller.	For 2,000 bushels of corn, at 93 cents per bushel.	2,500 00
458	Fort Riley, Kansas, Aug. 27, 1866.	Capt. R. B. Owen and Theo. Weichselbaum.	For 400 tons of hay, delivered at Fort Dodge, Kansas, at \$11 73 per ton.	1,500 00
459	Fort Riley, Kansas, Aug. 27, 1866.	Capt. R. B. Owen and J. H. Crane.	For 175 tons of hay, delivered at Fort Larned, Kansas, at \$11 90 per ton.	1,800 00
460	Fort Riley, Kansas, Aug. 22, 1866.	Capt. R. B. Owen and J. H. Brown.	For 100 tons of hay, delivered at Fort Wallace, Kansas, at \$35 per ton.	3,900 00
461	Fort Riley, Kansas, Aug. 22, 1866.	Capt. R. B. Owen and C. M. Dyche.	For 200 tons of hay, delivered at Fort Wallace, Kansas, at \$39 per ton.	3,000 00
462	Fort Garland, C. T., July 18, 1866.	Capt. W. H. Barlow and F. W. Posthoff.	For 250 tons of hay, at \$24 90 per ton.	400 00
463	St. Louis, Mo., Aug. 1, 1866.	Capt. J. L. Woods and Tineknor & Co.	For lease of part of building on 4th street, St. Louis, at \$75 per month.	1,000 00
464	Murfreesboro', Tenn., July 24, 1866.	Major E. B. Whitman and Sanders & Jackson.	For finishing 670 headboards, at 10 cents each; for finishing 300 headboards, at 25 cents each.	500 00
465	Murfreesboro', Tenn., Aug. 8, 1866.	Major E. B. Whitman and Garrett & Rather.	For painting and lettering headboards, at 45 cents each.	3,000 00
466	Nashville, Tenn., Aug. 18, 1866.	Capt. Geo. W. Marshall and F. M. McKee.	For constructing a fence at Carthage, Tennessee, at 48 cents per foot; for gate, at 96 cents per foot.	3,000 00
467	Camp Douglas, U. T., July 31, 1866.	Capt. E. B. Grimes and J. F. Nounnan.	For 67,000 feet of lumber, at \$60 per M; 185,000 shingles, at \$13 per M.	12,000 00
468	Camp Douglas, U. T., July 31, 1866.	Capt. E. B. Grimes and W. L. Halsey.	For 13,800 bushels oats, at \$1 69 per bushel.	5,000 00
469	Camp Douglas, U. T., July 31, 1866.	Capt. E. B. Grimes and W. A. Carter.	For 2,250 bushels charcoal, at 55 cents per bushel; 10 tons straw, at \$45 per ton.	7,000 00
470	Austin, Texas, May 15, 1866.	Lieut. J. W. Spangler and C. G. Napier.	For 100 tons of hay, at \$22 per ton.	1,432 00
471	Fort McPherson, N. T., Aug. 14, 1866.	Lieut. Geo. W. Yates and Samuel Porter.	For 1,000 tons of hay, at \$8 75 per ton.	1,000 00
472	Philadelphia, Penn., Sept. 1, 1866.	Major H. W. Jones and C. R. Williamson.	For 200 pairs bootees, No. 15, 200 pairs bootees, No. 16, at \$3 58 per pair.	1,000 00
473	Fort Randall, D. T., Aug. 13, 1866.	Lieut. A. H. Goodloe and W. Cox.	For 800 cords of cottonwood, at \$6 25 per cord.	1,000 00
474	St. Louis, Mo., Aug. 22, 1866.	Col. Geo. P. Webster and Frank Ewell.	For 10,000 bushels oats, at 37 cents per bushel; 100 tons baled hay, at \$14 per ton.	500 00
475	St. Louis, Mo., Aug. 16, 1866.	Col. Geo. P. Webster and John Fletcher.	For 100 tons baled hay, at \$14 30 per ton.	

Abstract of contracts made by the Quartermaster's department, &c—Continued.

No.	Place and date.	Parties.	Nature of contract.	Bond.
476	Fort Selden, N. M., July 23, 1866	Capt. W. L. Reynerson and Joseph Reynolds	For 500 tons of hay, at \$27 40 per ton	\$10,000 00
477	Fort Larned, Kansas, July 21, 1866	Lieut. A. Kaiser and J. H. Crane	For 650 cords of wood, at \$16 per cord	10,400 00
478	Philadelphia, Penn., Sept. 1, 1866	Major Geo. R. Orne and J. G. Rittenhouse	For 1 barrel coach varnish, at \$3 50 per gallon	200 00
479	Philadelphia, Penn., Sept. 1, 1866	Major Geo. R. Orne and W. J. Caffee	For 40 pounds black wax, at \$1 per pound	100 00
480	Philadelphia, Penn., Sept. 1, 1866	Major Geo. R. Orne and F. W. & G. A. Kohler	For 2 dozen door-neck bolts, at \$2 50 per dozen; 50 shutter bolts, at 33 cents each; 10 gross tufting buttons, at 20 cents per gross; 1 10-12 dozen putty knives, at \$3 per dozen; 100 R. & L. closet locks, at 23 cents each; 2 dozen draw tumbler locks, at \$2 75 per dozen; 500 pounds putty, at \$6 75 per 100 pounds.	100 00
481	Philadelphia, Penn., Sept. 1, 1866	Major Geo. R. Orne and F. W. & G. A. Kohler	For 200 ten-knob wall brushes, at 49 cents each; 200 pounds tin block, at 39½ cents per pound; 5 boxes glass, 10 by 12, at \$4 88 per box; 5 boxes glass, 12 by 16, at \$6 40 per box; 75 pounds glue, at 20 cents per pound; 8,000 pounds white lead, at \$14 99 per 100 pounds; 200 gallons turpentine, at 72 cents per gallon; 10 pounds umber, raw, at 19 cents per pound; 1 barrel Spanish whiting, at \$2 49 per 100 pounds; 2 barrels copal varnish, at \$2 49 per gallon; 10 pounds gum tragacanth, at 99 cents per pound; 100 C. H. lettering pencils, at \$3 per 100; 1 gross stripping pencils, at \$3 99 per gross.	2,000 00
482	Baltimore, Md., Sept. 24, 1866	Major A. S. Kimball and Reverdy Johnson, jr	For lease of a portion of premises northwest corner C. & A. & E. streets, Baltimore, at \$83 33 per month.	.....
483	Detroit, Mich., June 30, 1866	Capt. G. W. Cushing and Crawford, Bacon & Forsyth.	For wood as required at Detroit and Fort Wayne, Michigan, at \$7 50 per cord; wood as required at Fort Gratiot, Michigan, at \$6 per cord; bituminous coal at Detroit and Fort Wayne, Michigan, at \$8 95 per ton; bituminous coal at Fort Gratiot, at \$9 95 per ton.	.....
484	Fort Abercrombie, D. T., Sept. 8, 1866	Capt. Theo. Schwan and David McCauley	For 500 cords of wood, at \$4 15 per cord	3,000 00
485	Fort Abercrombie, D. T., Aug. 1, 1866	Capt. Theo. Schwan and Henry Gager	For 1,000 cords of wood, delivered at Fort Wadsworth, Dakota Territory, at \$9 95 per cord.	.....
486	Fort Abercrombie, D. T., Aug. 30, 1866	Capt. Theo. Schwan and H. C. Burbank	For 12,000 bushels oats, at 87 cents per bushel	15,000 00
487	St. Louis, Mo., Sept. 3, 1866	Col. Geo. P. Webster and A. K. Northrup	For 10,000 bushels oats, at 36.9 cents per bushel; 15,000 bushels oats, at 36.95 cents per bushel.	2,000 00
488	Fort Sedgewick, C. T., Aug. 6, 1866	Col. R. C. Webster and James Martin	For 800 cords of wood, at \$46 per cord	.....
489	San Francisco, Cal., June 25, 1866	Major R. W. Kirkham and J. W. Shaw	For transporting government stores to Fort Churchill, Nevada, at 3.15 cents per pound, in coin.	5,000 00
490	San Francisco, Cal., June 25, 1866	Major R. W. Kirkham and Bradley & Wade	For transporting government stores to Fort Klamath, Oregon, at 8 cents per pound, in coin.	5,000 00
491	San Francisco, Cal., June 25, 1866	Major R. W. Kirkham and James Linforth	For transporting government stores to Camp Independence, California, at 8½ cents per pound, in coin.	5,000 00
492	San Francisco, Cal., June 25, 1866	Major R. W. Kirkham and John Mullar	For transporting government stores to Fort Bidwell, California, at 7½ cents per pound, in coin.	5,000 00
493	San Francisco, Cal., June 25, 1866	Major R. W. Kirkham and John Mullar	For transporting government stores to Fort McGarry, Nevada, at 8½ cents per pound, in coin.	5,000 00
494	San Francisco, Cal., June 25, 1866	Major R. W. Kirkham and J. W. Shaw	For transporting government stores to Camp Ruby, Nevada, at 9.15 cents per pound, in coin.	5,000 00

495	San Francisco, Cal., June 25, 1866.....	Major R. W. Kirkham and Rantzan & Shaw.....	For transporting government stores to Granite Bank, Nevada, at 5.93 cents per pound, in coin.	5,000 00
496	San Francisco, Cal., June 25, 1866.....	Major R. W. Kirkham and Wm. L. Perkins & Co.....	For transporting government stores to Camp McDermitt, Nevada, at 9½ cents per pound, in coin.	5,000 00
497	San Francisco, Cal., June 25, 1866.....	Major R. W. Kirkham and Wm. L. Perkins & Co.....	For transporting government stores to Camp Lyon, Idaho Territory, at 11.45 cents per pound, in coin.	5,000 00
498	Fort Wright, Cal., June 23, 1866.....	Major W. H. Jordan and E. J. Whipple.....	For transporting government stores, at 5 cents and 4½ mills per pound, in coin.	2,000 00
499	New Orleans, La., Sept. 18, 1866.....	Lieut. Col. E. J. Strang and Hill & Jayner.....	For 100,000 cypress shingles, at \$8 per M; 150,000 feet pine boards, at \$28 per M.	2,500 00
500	St. Louis, Sept. 3, 1866.....	Capt. J. L. Woods and W. P. Milliken & Co.....	For 16 artillery horses, at \$174 74 each.	5,000 00
501	Fort Leavenworth, Kansas, Sept., 1866.....	Col. J. A. Potter and N. H. Williams.....	For 130 cavalry horses, at \$159 75 each.	10,000 00
502	Prescott, A. T., May 30, 1866.....	Capt. Joseph Tuttle and Jeremiah Riordon.....	For 40 tons of hay, delivered at Wickenburg, Arizona Territory, at 2½ cents per pound, in coin.	10,000 00
503	Prescott, A. T., May 21, 1866.....	Capt. Joseph Tuttle and Nelson Van Tassel.....	For 693 tons of hay, delivered at Fort McDowell, at \$60 per ton, in coin.	10,000 00
504	Prescott, A. T., May 23, 1866.....	Capt. Joseph Tuttle and J. P. Bourke.....	For 100 tons of hay, delivered at Camp Lincoln, at \$48 50 per ton, in coin.	3,000 00
505	Fort Boise, I. T., July 18, 1866.....	Capt. F. J. Eckerson and J. R. Robbins.....	For 250,000 pounds of oats, at 11.73 cents per pound, in coin; 150 tons of hay, at \$47 95 per ton; 30 tons of straw, at \$50 per ton.	10,000 00
506	Indianapolis, Ind., Sept. 5, 1866.....	Capt. G. W. Cushing and J. D. Patterson.....	For 175 cavalry horses, at \$149 50 each.	10,000 00
507	Fort Humboldt, Cal., July 2, 1866.....	Lieut. J. H. Smith and S. P. Crane.....	For 500 cords of soft wood, at \$4 per cord.	3,000 00
508	Fort McPherson, N. T., Aug. 29, 1866.....	Lieut. Geo. W. Yates and W. C. Brown.....	For 1,000 cords of wood, at \$2.94 per cord.	9,000 00
509	Fort Riley, Kansas, Sept. 7, 1866.....	Capt. R. B. Owen and Theo. Weischelbaum.....	For 1,200 cords of wood, delivered at Fort Dodge, Kansas, at \$15 70 per cord.	500 00
510	New York city, Sept. 1, 1866.....	Major R. C. Morgan and W. H. Yates.....	For 300 cords of wood, at \$7 75 per cord, delivered at Fort Columbus; \$8 per cord, delivered at Fort Schuyler; and \$7 75 per cord, delivered at Fort Wood.	5,000 00
511	New York city, Aug. 20, 1866.....	Major R. C. Morgan and Heckscher & Mason.....	For 4,300 tons of coal, at \$7 38 per cord, delivered at Fort Columbus; \$8 10 per cord, delivered at Fort Schuyler; and \$7 38 per cord, delivered at Fort Wood.	5,000 00
512	New York city, Aug. 28, 1866.....	Major R. C. Morgan and T. T. & C. W. Church.....	For 200 cords of wood, at \$7 49 per cord.	5,000 00
513	Charleston, S. C., June 25, 1866.....	Lieut. Col. Chas. W. Thomas and James Melvin.....	For transportation of supplies in Charleston, South Carolina, at 35 cents per load of 1,000 pounds.	5,000 00
514	Mobile, Ala., Sept. 10, 1866.....	Capt. John C. Grierson and Davis & Demchard.....	For transportation of ordnance and ordnance stores from Fort Morgan, Mobile bay, to Mount Vernon, Arsenal Landing, Alabama, at \$3 65 per ton.	5,000 00
515	Philadelphia, Penn., Sept. 21, 1866.....	Major Geo. R. Orme and City of Philadelphia.....	For lease of premises, Nos. 1,103 and 1,125 Girard street, Philadelphia, at \$2,030 04 per year.	5,000 00
516	Philadelphia, Penn., Sept. 21, 1866.....	Major Geo. R. Orme and City of Philadelphia.....	For lease of premises, Nos. 1,137 and 1,139 Girard street, Philadelphia, at \$2,100 per year.	5,000 00
517	Omaha, N. T., May 21, 1866.....	Gen. Wm. Myers and J. H. Kellom.....	For lease of brick barn in block 346, Omaha, Nebraska Territory, at \$12 50 per month.	5,000 00
518	Baltimore, Md., Aug. 25, 1866.....	Major A. S. Kimball and John Hopkins.....	For lease of No. 2 Grant street, Baltimore, Maryland, at \$83 33 per month.	5,000 00
519	Omaha, N. T., July 21, 1866.....	Gen. Wm. Myers and D. J. McCann.....	For 207,000 pounds shelled corn, delivered at Fort Casper, Dakota Territory, at \$5 per bushel.	10,000 00
520	Camp Douglas, U. T., July 17, 1866.....	Capt. E. B. Grimes and Louis B. Scott.....	For 250 tons of hay, delivered at Fort Bridger, Utah Territory, at \$35 per ton.	600 00
521	Philadelphia, Penn., Aug. 9, 1866.....	Major H. W. James and Page, Kidder & Co.....	For 2 tons petroleum paper, at 14 cents per pound.	5,000 00
522	Fort McPherson, N. T., Sept. 13, 1866.....	Lieut. Geo. W. Yates and John Burke.....	For 200,000 feet lumber, at \$42 per M.	1,500 00
523	Fort McPherson, N. T., Sept. 15, 1866.....	Lieut. George W. Yates and W. M. Hinman.....	For 200,000 cedar shingles, at \$12 per M.	1,500 00

Abstract of contracts made by the Quartermaster's department, &c.—Continued.

No.	Place and date.	Parties.	Nature of contract.	Bond.
524	Fort Snelling, Minn., Aug. 30, 1866.....	Capt. Theodore Schwan and Henry Belurke.....	For 8,000 bushels of oats, delivered at Fort Ridgeley, Minnesota, at 43½ cents per bushel.	\$1,000 00
525	Charleston, S. C., June 4, 1866.....	Lieut. Col. C. W. Thomas and Hopkins, McPherson & Co.	For pine wood as required, at \$5 30 per cord; oak wood, at \$5 55 per cord.	.....
526	Fort Laramie, D. T., Aug. 6, 1866.....	Col. Geo. B. Daudy and Mahlon Dickinson.....	For 250,000 adobes, at \$28 per M.....	3,500 00
527	Fort Yuma, Cal., July 3, 1866.....	Capt. Wm. H. Mills and L. J. F. Jaeger.....	For 500 tons hay, at \$84 per ton, in coin.....	8,000 00
528	Mobile, Ala., Aug. 20, 1866.....	Capt. J. C. Grierson and J. M. & T. Meaher.....	For 100,000 feet assorted lumber, at \$21 per M; 60,000 feet shingles, at \$5 per M.	5,000 00
529	Nashville, Tennessee, Sept. 17, 1866.....	Major E. B. Kirk and Evan Humphreys.....	For repairing roofing on government buildings, at \$1 75 per square.	300 00
530	Newport barracks, Ky., June 28, 1866.....	Lieut. J. E. S. Cooper and Newport Ferry Co.....	For ferryage as required for one year from Cincinnati to Newport and return, at \$400 per year.	1,000 00
531	St. Louis, Mo., June 1, 1866.....	Col. George P. Webster and Memphis Packet Co.....	For transportation between St. Louis, Missouri, to Memphis, Tennessee, at prices as per schedule with contract on file.	.....
532	St. Louis, Mo., June 1, 1866.....	Col. George P. Webster and J. N. Bofinger.....	For transportation of troops and supplies from St. Louis, Missouri, to New Orleans, Louisiana, as per schedule with contract on file.	50,000 00
533	St. Louis, Mo., Oct. 1, 1866.....	Major J. L. Woods and J. R. Finlay.....	For lease of lot of ground on Morton street, St. Louis, at \$125 per month.	.....
534	St. Louis, Mo., Sept. 1, 1866.....	Major J. L. Woods and Ticknor & Co.....	For lease of second floor of building on northwest corner of 4th street and Washington avenue, St. Louis, at \$125 per month.	.....
535	St. Louis, Mo., Sept. 1, 1866.....	Major J. L. Woods and Ticknor & Co.....	For lease of third floor of building on northwest corner of 4th street and Washington avenue, St. Louis, at \$75 per month.	.....
536	Macon, Ga., Aug. 1, 1866.....	Lieut. W. Comstock and S. I. Gustin.....	For 100 cords of wood, at \$6 per cord.....	1,000 00
537	St. Louis, Mo., Aug. 4, 1866.....	Col. George P. Webster and Frederick Dozier.....	For transportation of army supplies from St. Louis, Missouri, to points on the Missouri river as follows: About 40 tons to Fort Randall, Dakota Territory, 90 tons to Fort Sully, Dakota Territory, and 80 tons to Fort Rice, Dakota Territory, at \$2 48 per 100 pounds.	2,000 00
538	St. Louis, Mo., July 25, 1866.....	Col. George P. Webster and H. H. Symmes.....	For transportation of 90 tons of army supplies from St. Louis, Missouri, to Fort Sully, Dakota Territory, and 100 tons to Fort Rice, Dakota Territory, at 3 cents per pound; also 36 mules from Fort Leavenworth, Kansas, to Fort Rice, Dakota Territory, at \$24 per head.	3,000 00
539	St. Louis, Mo., July 16, 1866.....	Col. George P. Webster and James A. Yore.....	For transportation of 40 tons of army supplies from St. Louis, Missouri, to Nebraska city, Nebraska Territory, at 65 cents per 100 pounds.	200 00
540	St. Louis, Mo., July 16, 1866.....	Col. George P. Webster and E. A. Sheble.....	For transportation of 150 tons of army supplies from St. Louis, Missouri, to St. Paul, Minnesota, at 47½ cents per 100 pounds.	500 00
541	St. Louis, Mo., July 16, 1866.....	Col. George P. Webster and McKee & Kinney.....	For transportation of 500 tons of subsistence stores from St. Louis, Missouri, to Nebraska city, Nebraska Territory, at 95 cents per 100 pounds.	2,000 00
542	St. Louis, Mo., July 16, 1866.....	Col. George P. Webster and W. H. Austin.....	For transportation of 110 tons of subsistence stores from St. Louis, Missouri, to St. Paul, Minnesota, at 34½ cents per 100 pounds.	500 00

543	St. Louis, Mo., June 25, 1866.....	Col. George P. Webster and J. G. Hanna.....	For transportation of 440 tons army supplies from St. Louis, Missouri, to Omaha, Nebraska Territory, at 75 cents per 100 pounds.....	3,000 00
544	Headquarters district Upper Missouri, June 16, 1866.....	Lieut. R. A. Torrey and George W. Cable.....	For transportation of stores by steamer Mary McDonald, at \$600 per day.....	.....
545	Austin, Texas, Aug. 5, 1866.....	Lieut. J. W. Spangler and W. M. Wilson.....	For 200 tons of hay, at \$14 75 per ton.....	5,000 00
546	Camp Douglas, U. T., Aug. 16, 1866.....	Capt. E. B. Grimes and J. H. Jones.....	For 10,000 bushels of oats, at 79 cents per bushel.....	4,000 00
547	Camp Douglas, U. T., Aug. 16, 1866.....	Capt. E. B. Grimes and Horace Wheat.....	For 10,000 bushels of barley, at \$1 30 per bushel.....	7,000 00
548	Louisville, Ky., Sept. 13, 1866.....	Capt. J. H. Belcher and H. Verhoeff, jr., & Co.....	For 1,200 bushels of oats, at 49½ cents per bushel.....	200 00
549	Omaha, N. T., Sept. 26, 1866.....	Gen. Wm. Myers and J. Patrick.....	For 100 cavalry horses, at \$147 each.....	5,000 00
550	Baltimore, Md., July 24, 1866.....	Col. George W. Bradley and W. R. Tomlinson.....	For charter of tug Ambition, at \$35 per day.....	.....
551	Savannah, Ga., July 22, 1866.....	Col. E. B. Carling and I. I. Loane.....	For charter of steamer G. I. Loane, at \$70 per day.....	.....
552	Charleston, S. C., June 12, 1866.....	Col. C. W. Thomas and D. I. Sturges.....	For charter of schooner Martha Ann, at \$550 per month.....	.....
553	Savannah, Ga., July 18, 1866.....	Col. E. B. Carling and I. I. Loane.....	For charter of steamer E. H. Webster, at \$70 per day.....	.....
554	Baltimore, Md., July 28, 1866.....	Col. G. W. Bradley and Pendergast & Co.....	For charter of steamer Star of the South, at \$654 per day.....	.....
555	Fort Monroe, Va., Sep. 7, 1866.....	Capt. Thomas G. Whytal and H. R. White.....	For victualing and manning tug Mosswood, at \$594 per month.....	500 00
556	New York city, Sept. 27, 1866.....	Gen. D. H. Vinton and C. H. Bass & Co.....	For 100 tons of coal at \$7 50 per ton.....	6,000 00
557	Fort Snelling, Minn., Aug. 30, 1866.....	Capt. Theodore Schwan and H. C. Burbank.....	For 750 cords of wood, at \$7 90 per cord.....	5,000 00
558	Philadelphia, Pa., Sept. 27, 1866.....	Major George R. Orme and C. H. Cummings.....	For forage as required until March 31, 1867, at, for corn, 99 cents per bushel; oats, 59 cents per bushel; hay, \$1 54 per 100 pounds; straw, \$1 19 per 100 pounds.....	.....
559	Prescott, A. T., May 31, 1866.....	Capt. Joseph Tuttle and Charles Atchison.....	For 30 tons of hay, at \$48 per ton, in gold.....	2,000 00
560	Fort Kearney, N. T., Aug. 1, 1866.....	Lieut. Charles E. Dibble and F. J. Comstock.....	For 1,000 tons of hay, at \$9 75 per ton.....	6,000 00
561	Fort Laramie, C. T., Aug. 29, 1866.....	Col. G. B. Dandy and David Simpson.....	For 400 tons of hay, delivered at Fort Casper, Dakota Territory, at \$47 per ton.....	9,000 00
562	Denver, C. T., Sept. 3, 1866.....	Col. J. B. Howard and A. H. Whitehead.....	For 400 tons of hay, delivered at Fort John Buford, Dakota Territory, at \$10 47 per ton.....	8,500 00
563	Jeffersonville, Ind., Oct. 3, 1866.....	Capt. J. H. Belcher and H. Verhoeff, jr., & Co.....	For 90,000 pounds of oats, delivered at Louisville, Kentucky, and Jeffersonville, Indiana, at 53 cents per bushel.....	400 00
564	Jeffersonville, Ind., Oct. 3, 1866.....	Capt. J. H. Belcher and Brandies & Crawford.....	For 90,000 pounds of oats, delivered at Louisville, Kentucky, and Jeffersonville, Indiana, at 53 cents per bushel.....	400 00
565	Fort Leavenworth, Kansas, Sept. 24, 1866.....	Col. J. A. Potter and F. C. Bulkey.....	For 600 cords of wood, at, for first 250 cords, \$7 per cord; second 250 cords, \$7 50 per cord; and for 100 cords, \$8 50 per cord.....	2,000 00
566	Fort Leavenworth, Kansas, Sept. 24, 1866.....	Col. J. A. Potter and Thomas Morgan.....	For 600 cords of wood, at \$8 35 per cord.....	2,000 00
567	Fort Riley, Kansas, Sept. 27, 1866.....	Capt. R. B. Owen and J. H. Blake.....	For 125 tons of hay, delivered at Fort Fletcher, Kansas, at \$29 per ton.....	7,475 00
568	Atlanta, Ga., Oct. 10, 1866.....	Lieut. M. Barber and K. L. Benteen.....	For wood as required for six months, at \$5 per cord.....	2,000 00
569	Fort Ridgely, Minn., Aug. 27, 1866.....	Lieut. J. C. White and J. P. Current.....	For 600 bushels of charcoal, at 20 cents per bushel.....	500 00
570	Jacksonville, Fla., Sept. 25, 1866.....	Lieut. Wm. Logan and J. K. Russell.....	For 4,000 feet 8 by 8 inches, 4,000 feet 2 by 8 inches, 4,000 feet 2 by 6 inches, 2,000 feet 8 by 10 inches, 1,000 feet 2 by 4 inches, 2,000 feet 3 inch battens, and 25,000 feet inch boards, all at \$18 per M; 10,000 laths, at \$5 per M; 10,000 feet 1½-inch flooring, dressed, at \$32 per M feet.....	.....
571	Jacksonville, Fla., Sept. 25, 1866.....	Lieut. Wm. Logan and J. E. Buckman.....	For 175,000 cypress shingles, at \$9 per M.....	16,000 00
572	Fort Kearney, N. T., Aug. 9, 1866.....	Lieut. Charles E. Dibble and J. F. Kirby.....	For 800 cords of wood, at \$19 per cord.....	400 00
573	Greenville, S. C., Oct. 4, 1866.....	Lieut. J. W. Godman and C. B. Stone.....	For hard wood as required for seven months, at \$3 87 per cord.....	14,000 00
574	Camp Independence, Cal., Aug. 15, 1866.....	Lieut. Charles Beudère and D. Cohn & Co.....	For 200,000 pounds of barley, at 7.49 cents per pound, in coin.....	14,000 00
575	Camp Independence, Cal., Aug. 18, 1866.....	Lieut. Charles Beudère and J. Davison.....	For 200,000 pounds of barley, at 7½ cents per pound, in coin.....	14,000 00
576	Camp Independence, Cal., Aug. 15, 1866.....	Lieut. Charles Beudère and W. S. Matthews.....	For 200,000 pounds of hay, at 12.5 cents per pound, in coin.....	2,800 00
577	Camp Independence, Cal., Aug. 15, 1866.....	Lieut. Charles Beudère and W. S. Matthews.....	For 300,000 pounds of hay, at 1½ cents per pound.....	4,500 00
578	Macon, Ga., Sept., 29, 1866.....	Lieut. M. P. Buffum and S. J. Gustin.....	For hard wood in quantities as required, at \$7 per cord.....	4,000 00

Abstract of contracts made by the Quartermaster's department, &c.—Continued.

No.	Place and date.	Parties.	Nature of contract.	Bond.
579	New Orleans, La., Sept. 30, 1866	Col. C. G. Sawtell and J. C. Harris	For transportation of government supplies and stores from New Orleans to Galveston or return : <i>Galveston.</i> <i>Indianola.</i> <i>Brazos Santiago.</i> Horses and mules.....\$12 00 \$15 00 \$25 00 Beef cattle 10 00 15 00 Iron and machinery, per 100 lbs.. 80 1 50 Coal, per ton..... 5 00 7 50 Hay, per bale..... 2 00 3 00 Lumber, pine..... 15 00 18 00 Lumber, oak..... 18 00 20 00 Measurement goods, per cubic ft.. 12½ 18 33 Oats and corn, per bushel..... 15 20 30 Dry goods, per barrel..... 70 90 1 50 Pork and beef, &c..... 1 35 1 50 Enlisted men, each..... 5 00 7 00 Officers..... 12 50 18 00 Galveston to Indianola or return at one-fifth less than New Orleans to Galveston; Galveston to Brazos Santiago or return at same rates as New Orleans to Indianola; Indianola to Brazos Santiago or return at same rates as New Orleans to Galveston. For 700 tons of hay, at \$17 64 per ton..... For 305 tons of anthracite coal, delivered at Forts Warren and Independence, in Boston harbor, at \$7 35 per ton..... For 150 cords of wood, delivered at Fort Constitution, New Hampshire, and Fort McClary, Maine, at \$10 48 per cord. For 150 cords of wood, delivered at Fort Warren, Massachusetts, at \$10 25 per cord. For 250 cords of wood, delivered at Fort Sullivan, Maine, at \$8 45 per cord. For wood as required, at \$8 50 per cord; oats, at 75 cents per bushel; hay, at \$30 per ton; straw, at \$32 per ton. For 5,000 bushels corn, delivered at Fort Kearney, Nebraska Territory, at \$6 72 per bushel. For 100 cords of wood, at \$15 per cord..... For coal in quantities as required, at \$17 per bushel..... For wood in quantities as required, at \$4 98 per cord..... For 187 tons of anthracite coal, at \$13 per ton..... For 127 cords of hard wood, at \$6 45 per cord..... For 400 tons of hay, at \$17 per ton..... For 30,000 bushels shelled corn, at \$1 39 per bushel..... For 50 tons of straw, at \$8 75 per ton..... For 14,000 bushels oats, at 42½ cents per bushel..... For 4,000 bushels oats at Fort Abercrombie, Dakota Territory, at 90 cents per bushel.	\$20,000 00
580	San Antonio, Texas, Oct. 13, 1866	Lieut. Col. H. C. Ransom and Edward Braden		2,000 00
581	Boston, Mass., Oct., 18, 1866	Major J. W. McKim and Tyler & Co		4,500 00
582	Boston, Mass., Oct. 17, 1866	Major John W. McKim and N. F. Mathes		3,000 00
583	Boston, Mass., Oct. 15, 1866	Major John W. McKim and John Bell		3,075 00
584	Boston, Mass., Oct. 20, 1866	Major John W. McKim and Paine Bros		3,887 00
585	Fort Trumbull, Conn., Oct. 15, 1866	Lieut. Wm. L. Haskins and R. K. Bishop		1,000 00
586	Omaha, N. T., Sept. 26, 1866	Gen. Wm. Myers and D. J. McCann		10,000 00
587	Fort Laramie, A. T., Oct. 1, 1866	Col. G. B. Dandy and Jas. Bordeau		10,000 00
588	Jeffersonville, Ind., Oct. 4, 1866	Capt. J. H. Belcher and Wm. Jones & Co		5,000 00
589	Jeffersonville, Ind., Oct. 4, 1866	Capt. J. H. Belcher and Philip Thornberry		1,000 00
590	Plattsburg barracks, N. Y., Sept. 22, 1866	Lieut. Thomas F. Quinn and P. K. Delaney		500 00
591	Plattsburg barracks, N. Y., Sept. 30, 1866	Lieut. Thomas F. Quinn and Jas. Porter		5,000 00
592	Fort Snelling, Minn., May 15, 1866	Capt. C. W. Nash and J. M. Enstis		1,500 00
593	San Antonio, Texas, Oct. 5, 1866	Lieut. Col. H. C. Ransom and W. A. Menger		500 00
594	Fort Snelling, Minn., May 15, 1866	Capt. C. W. Nash and A. H. Wilder		6,000 00
595	Fort Snelling, Minn., May 15, 1866	Capt. C. W. Nash and A. H. Wilder		4,000 00
596	Fort Snelling, Minn., May 15, 1866	Capt. C. W. Nash and H. C. Burbank		

597	Baltimore, Md., Oct. 30, 1866	Major A. S. Kimball and Wm. Lee	For transportation of stores in Baltimore city, at 25 cents to \$1 25 per load.	5,000 00
598	Baltimore, Md., Oct. 19, 1866	Major A. S. Kimball and J. H. Taylor	For 300 cords oak and pine wood, at \$9 per cord.	10,000 00
599	Baltimore, Md., Oct. 16, 1866	Major A. S. Kimball and H. Classen	For 12 tons of straw, at \$18 per ton; 1,438 bushels oats, at 62 cents per bushel.	10,000 00
600	Baltimore, Md., Oct. 17, 1866	Major A. S. Kimball and Geo. Rinchart	For 27 tons of hay, at \$26 95 per ton	5,000 00
601	Baltimore, Md., Oct. 16, 1866	Major A. S. Kimball and Kessler & Born	For 90 tons anthracite coal, at \$7 40 per ton; 5 tons bituminous coal, at \$7 per ton; and 25 cents per ton additional for coal delivered at Fort McHenry.	2,000 00
602	Fort Riley, Kansas, Sept. 24, 1866	Capt. R. B. Owen and Ed. G. Robinson	For 10,000 bushels oats, at 62 cents per bushel; 10,000 bushels corn, at 83 cents per bushel.	8,000 00
603	St. Louis, Mo., Oct. 1, 1866	Major Jno. L. Woods and John Fletcher	For 25,000 bushels oats, at 43½ cents per bushel for 10,000 bushels; 43½ cents per bushel for 10,000 bushels; and 43½ cents per bushel for 5,000 bushels.	3,000 00
604	St. Louis, Mo., Oct. 11, 1866	Major Jno. L. Woods and A. K. Northrup	For 100 tons of hay, at \$16 95 per ton	400 00
605	St. Louis, Mo., Oct. 11, 1866	Major Jno. L. Woods and E. B. Kirby	For 50 tons of straw, at \$12 per ton.	200 00
606	St. Louis, Mo., Oct. 18, 1866	Major Jno. L. Woods and Hall & Herrick	For 25,000 bushels oats, at 42 3 cents per bushel.	2,000 00
607	St. Louis, Mo., Oct. 11, 1866	Major Jno. L. Woods and T. J. Donnelley	For 100 cavalry horses, at \$164 50 each.	2,000 00
608	St. Louis, Mo., Oct. 11, 1866	Major Jno. L. Woods and C. M. Ellear	For 814 cavalry horses, at \$164 85 each.	67,000 00
609	St. Louis, Mo., Oct. 11, 1866	Major Jno. L. Woods and Daniel Honig	For 100 cavalry horses, at \$163 95 each.	8,000 00
610	Salt Lake City, U. T., Feb. 6, 1866	Capt. D. B. Stover and Horace Wheat	For quartermaster's stores as per schedule attached to contract on file.	3,000 00
611	Salt Lake City, U. T., Feb. 6, 1866	Capt. D. B. Stover and Wilkinson & Fenn	For quartermaster's stores as per schedule attached to contract on file.	500 00
612	New York city, Oct. 31, 1866	Gen. D. H. Vinton and J. P. Ryan	For coopering packing boxes as required, at 15 cents each	2,000 00
613	Fort Laramie, D. T., Sept. 22, 1866	Col. G. B. Dancy and S. D. Childs	For 150 cords of wood at Fort Mitchell, Dakota Territory, at \$13 68 per cord.	800 00
614	Austin, Texas, Oct. 23, 1866	Lieut. J. W. Spangler and W. M. Wilson	For 200 tons of hay, at \$16 50 per ton.	6,000 00
615	Denver, C. T., Aug. 30, 1866	Col. J. B. Howard and J. H. Martin	For 500 tons of hay at Fort Morgan, Colorado Territory, at \$12 per ton.	12,000 00
616	Fort Wadsworth, D. T., Aug. 1, 1866	Capt. George H. Crozman and S. J. Brown	For 10,000 bushels of oats, at \$1 59 per bushel	16,000 00
617	Fort Colville, W. T., May 14, 1866	Capt. C. McKibbin, jr., and Alfred Mauray	For 500 cords of wood, at \$5 per cord, in gold	5,000 00
618	Fort Colville, W. T., May 14, 1866	Capt. C. McKibbin, jr., and Alfred Mauray	For 100 tons of hay, at \$19 per ton, in gold	3,800 00
619	Prescott, A. T., Aug. 31, 1866	Capt. Joseph Tuttle and B. Cohn	For transportation of 106 pounds of government stores from La Paz, Arizona Territory, to Camp Mason, Arizona Territory, at 8 cents per pound.	5,000 00
620	Prescott, A. T., Aug. 31, 1866	Capt. Joseph Tuttle and M. K. Lury	For delivery of 200 tons of hay at Fort Whipple, at \$58 50 per ton, in gold.	10,000 00
621	Prescott, A. T., Aug. 31, 1866	Capt. Joseph Tuttle and John Simmons	For delivery of 79 tons of hay at Camp Mason, Arizona Territory, at \$48 50 per ton, in gold.	5,000 00
622	Prescott, A. T., Aug. 31, 1866	Capt. Joseph Tuttle and Wm. H. Hardy	For transportation of 486 tons of government stores from Hardyville to Fort Whipple, at 8½ cents per pound, in coin.	10,000 00
623	Detroit, Mich., Oct. 1, 1866	Lieut. J. R. Botwell and G. W. Sutherland	For oats, at 45 cents per bushel; hay, \$15 per ton; straw, \$10 per ton; corn, 90 cents per bushel, in quantities as required.	5,000 00
624	Fort Bois, I. T., Aug. 18, 1866	Capt. T. J. Eckerson and J. R. Robbins	For 300 cords of hard wood, delivered at Camp Lyon, Idaho Territory, at \$14 24 per cord, in coin.	2,000 00
625	Fort Bois, I. T., Aug. 18, 1866	Capt. T. J. Eckerson and J. M. Stephenson	For 300,000 pounds of oats or barley, at 10 12 cents per pound, in coin.	10,000 00
626	Fort Bois, I. T., Aug. 18, 1866	Capt. T. J. Eckerson and W. K. Ish	For 200 tons of hay and 40 tons of straw, at \$60 per ton, in coin.	6,000 00
627	Fort Leavenworth, Kansas, Oct. 12, 1866	Col. J. A. Potter and H. R. Hammond	For 4,400 bushels of oats, at 47 cents per bushel.	5,000 00
628	Fort Leavenworth, Kansas, Oct. 12, 1866	Col. J. A. Potter and D. H. Mitchell	For 1,200 bushels of oats, at 40 cents per bushel.	250 00
629	Fort Leavenworth, Kansas, Oct. 12, 1866	Col. J. A. Potter and Adam Brenner	For 4,400 bushels of oats, at 47 cents per bushel.	500 00

Abstract of contracts made by the Quartermaster's department, &c.—Continued.

No.	Place and date.	Parties.	Nature of contract.	Bond.
630	Fort Adams, R. I., Oct. 1, 1866.	Lieut. Lewis Smith and T. T. Pitman	For hay as required, at \$28 per ton; oats, 65 cents per bushel; straw, \$28 per ton.	\$2,000 00
631	Fort Adams, R. I., Oct. 1, 1866.	Lieut. Lewis Smith and Joseph Bradford	For 600 tons of coal, at \$7 90 per ton	5,000 00
632	Fort Adams, R. I., Oct. 1, 1866.	Lieut. Lewis Smith and Brown & Howard	For 100 cords of hard wood, at \$8 40 per cord.	2,000 00
633	Austin, Texas, Oct. 22, 1866	Lieut. J. W. Spangler and D. A. Wray	For 250 tons of hay, at \$30 per ton	8,000 00
634	Fort Sedgwick, C. T., Aug. 2, 1866	Brevet Col. R. C. Webster and S. A. Hackley	For 1,500 tons of hay, at \$34 per ton	15,000 00
635	Mobile, Ala., Oct. 15, 1866	Capt. John C. Grierson and J. P. May	For 1,000 cords of wood, at \$9 50 per cord	10,000 00
636	Denver, C. T., Oct. 27, 1866	Col. J. B. Howard and J. M. Chivington	For 262,000 shingles, at \$15 per M	4,000 00
637	St. Louis, Mo., Sept. 1, 1866	Capt. J. L. Woods and M. H. Williamson	For lease of building 225 North Main street, St. Louis, Missouri, at \$166 66 per month.	.....
638	Washington, D. C., Oct. 19, 1866.	Capt. J. M. Moore and Samuel Baker	For charter of schooner Lydia Ann May, (218 tons,) at \$4 50 per ton per month.	.....
639	San Francisco, Cal., Aug. 7, 1866.	Major R. W. Kirkham and Rautzan & Shaw	For transportation of supplies from San Francisco, California, to Camp C. F. Smith, Oregon, 35 tons, at 10.20 cents per pound, in coin.	5,000 00
640	San Francisco, Cal., Aug. 27, 1866	Major R. W. Kirkham and Wm. L. Perkins	For transportation of supplies from San Francisco, California, to camp at Paradise Valley, Nevada, 50 tons, at 11½ cents per pound, in coin.	2,500 00
641	Fort Bidwell, Cal., Aug. 1, 1866	Lieut. M. J. Fitzgerald and Wm. McCrea	For hay in quantities as required, at \$18 per ton; straw, at \$17 per ton, in gold.	6,000 00
642	Fort Bidwell, Cal., Aug. 1, 1866	Lieut. M. J. Fitzgerald and W. M. Hoag	For barley in quantities as required, at 8½ cents per pound.	10,000 00
643	Vancouver depot, W. T., Aug. 20, 1866.	Capt. George H. Weeks and James Crawford	For 262,500 pounds oats, at \$1 48 per 100 pounds; 130 tons of hay, at \$22 75 per ton; and 50 tons of oat straw, at \$7 50 per ton, in coin.	7,000 00
644	Vancouver depot, W. T., Aug. 20, 1866.	Capt. George H. Weeks and John Proebstel	For 30 tons of hay, at \$20 per ton, in gold.	700 00
645	Vancouver depot, W. T., Aug. 20, 1866.	Capt. George H. Weeks and Wm. H. McGrath	For 1,000 bushels charcoal, at 12½ cents per bushel, in coin.	200 00
646	Vancouver depot, W. T., Aug. 20, 1866.	Capt. George H. Weeks and James Imbrie	For 262,500 pounds of oats, at \$1 37½ per 100 pounds, in coin.	4,000 00
647	Buffalo, N. Y., Nov. 10, 1866	Gen. R. Saxton and A. H. Squier	For lease of stable at 303 Niagara street, Buffalo, New York, at \$12 50 per month.	.....
648	Louisville, Ky., Oct. 16, 1866	Col. R. N. Batchelder and Mrs. E. M. Ward	For lease of building and lot on Second and Walnut streets, Louisville, Kentucky, at \$4,000 per year.	.....
649	New York city, Sept. 16, 1866.	Major R. C. Morgan and W. H. I. Howe	For lease of premises 112 East 13th street, New York, at \$1,000 per year.	.....
650	New York city, Oct. 1, 1866.	Major R. C. Morgan and G. B. Nash	For lease of premises 49 7th avenue, New York, at \$2,400 per year.	.....
651	Fort Leavenworth, Kansas, Oct. 23, 1866.	Gen. J. A. Potter and W. H. Bond	For 5,000 bushels of shelled corn, at 79 cents per bushel.	1,000 00
652	Fort Leavenworth, Kansas, Oct. 23, 1866.	Gen. J. A. Potter and C. A. Perry	For 10,000 bushels of shelled corn, at 82 cents per bushel.	2,000 00
653	Omaha, N. T., Oct. 10, 1866.	Gen. Wm. Myers and Brown & O'Brien	For constructing a pontoon bridge over the Platte river, the United States to furnish material. In consideration of which the free use of the bridge is given the United States for all troops, employes, animals, and vehicles at all times.	1,000 00
654	San Antonio, Texas, Oct. 27, 1866	Col. J. G. C. Lee and A. L. Kessler	For 150 cavalry horses, at \$139 each for the first fifty, and \$149 each for the remaining one hundred.	10,000 00
655	San Antonio, Texas, Oct. 29, 1866	Col. J. G. C. Lee and P. Murphy	For 400 cavalry horses, at \$129 25 each	15,000 00
656	San Antonio, Texas, Oct. 29, 1866	Col. J. G. C. Lee and S. J. Davis	For 400 cavalry horses, at \$139 50 each.	18,000 00

657	San Antonio, Texas, Oct. 30, 1866	Col. J. G. C. Lee and D. A. Wray.	For 103 cavalry horses, at \$150 each.	6,000 00
658	San Antonio, Texas, Nov. 5, 1866	Col. J. G. C. Lee and Joseph Rubarth.	For 25 cavalry horses, at \$140 each.	1,500 00
659	San Antonio, Texas, Nov. 5, 1866	Col. J. G. C. Lee and J. W. Talbot.	For 40 cavalry horses, at \$140 each.	2,000 00
660	Nashville, Tenn., Nov. 9, 1866	Col. E. B. Kirk and J. G. Sawyer.	For roofing 125 squares on government buildings at Nashville, Tennessee, at \$4 50 per square.	300 00
661	Atlanta, Ga., Oct. 31, 1866	Lieut. M. Barber and S. B. Sherwood.	For building temporary barracks at Atlanta, Georgia, at \$3, 800.	8,000 00
662	Madison barracks, Nov. 1, 1866	Lieut. W. Cox and Barney Everleigh.	For wood as required at Madison barracks for six months, at \$7 50 per cord.	4,000 00
663	Camp Douglas, U. T., Sept. 4, 1866	Major E. B. Grimes and Washington Barrow.	For 375 tons of hay, at \$35 per ton.	7,000 00
664	Fort Ontario, N. Y., Nov. 1, 1866	Lieut. Carl Veitenhimer and B. J. Denton.	For wood as required at Fort Ontario, New York, for six months, at \$10 per cord; coal, \$10 per ton.	5,000 00
665	Boston, Mass., Nov. 17, 1866	Major John W. McKim and Hammond & Foster.	For 300 tons steamboat coal, at \$8 20 per ton.	4,920 00
666	Columbia, S. C., Sept. 12, 1866	Lieut. J. F. Munson and Douglass & Roach.	For wood as required at Columbia, South Carolina, at, for pine, \$4; oak, \$4 50 per cord.	600 00
667	Louisville, Ky., Nov. 7, 1866	Col. R. N. Batchelder and Thomas Chalk.	For building a stone fence around the cemetery at Perryville, Kentucky, at \$15 per rod.	1,000 00
668	Fort Yuma, Cal., Sept. 13, 1866	Capt. Joseph Tuttle and P. Banning.	For transportation of United States government stores from Fort Yuma, California, to Tucson, Arizona Territory, at 6 cents per pound, in gold.	5,000 00
669	Santa Fé, N. M., Oct. 25, 1866	Col. H. M. Enos and John Lemon.	For 200,000 pounds of corn, at 5½ cents per pound.	10,000 00
670	Fort Leavenworth, Kansas, Oct. 24, 1866	Col. J. A. Potter and Moore & Rhea.	For 100 cavalry horses, at \$164 each.	5,000 00
671	Brashear City, La., Nov. 1, 1866	Lieut. Wm. H. Currie and W. M. Hanchett.	For 40 cords of wood, at \$4 per cord.	
672	Camp Douglas, U. T., Sept. 29, 1866	Major E. B. Grimes and Horace Whitt.	For 141,000 feet of pine lumber, (assorted,) at \$64 per M feet.	4,000 00
673	Anderson, S. C., Nov. 2, 1866	Lieut. Chas. F. Loshie and Peter K. McNully.	For 160 cords of wood, at \$4 per cord.	
674	Detroit, Mich., Oct. 1, 1866	Lieut. J. R. Bothwell and F. R. Forsyth.	For fuel as required for three months at Detroit, Fort Wayne, and Fort Gratiot—wood, at \$9 per cord; coal at Detroit, Michigan, and Fort Wayne, Michigan, at \$10 per ton; at Fort Gratiot, at \$11 per ton.	5,000 00
675	St. Louis, Mo., Sept. 3, 1866	Col. George P. Webster and Fred. Dozier.	For transportation of 100 tons army supplies from St. Louis, Missouri, to Fort Sully, Dakota Territory, at 3.48 cents per pound; 100 tons army supplies from St. Louis to Fort Rice, Dakota Territory, at 4.48 cents per pound.	3,000 00
676	New Orleans, La., Nov. 5, 1866	Lieut. Col. E. J. Strang and W. G. Sherman.	For 6,000 cords of wood, at \$7 per cord.	
677	Shreveport, La., Nov. 6, 1866	Lieut. B. Boggs and Howard & Wimbish.	For hard wood as required for six months, at \$5 50 per cord.	2,000 00
678	Fort Casper, D. T., Sept. 17, 1866	Lieut. G. S. Carpenter and Wm. H. Boyd.	For 100 cords of wood, at \$9 95 per cord.	
679	Camp Douglas, U. T., Sept. 29, 1866	Major E. B. Grimes and U. L. Halsey.	For 100,000 pine shingles, at \$10 per M.	500 00
680	Fort C. F. Smith, M. T., Aug. 15, 1866	Lieut. G. M. Templeton and James Marr.	For 200 tons of hay, at \$25 per ton.	15,000 00
681	Lexington, Ky., Oct. 30, 1866	Lieut. P. H. Flood and J. Wingate & Co.	For wood and coal as required for three months—wood, at \$10 per cord; coal, at 35 cents per bushel.	500 00
682	Lexington, Ky., Oct. 30, 1866	Lieut. P. H. Flood and J. Wingate & Co.	For corn, oats, hay, and straw as required for three months, at 80 cents per bushel for corn, shelled; 75 cents for corn in the ear; 45 cents per bushel for oats; \$14 per ton for hay, baled; \$12 per ton for hay, loose; \$10 per ton for straw.	
683	Fort Humboldt, Cal., July 30, 1866	Capt. J. H. Smith and Crane & McConaha.	For transportation of government stores to Fort Gaston, California, at 3½ cents per pound, in gold.	10,000 00
684	New Orleans, La., Oct. 12, 1866	Capt. A. J. McGonigle and N. B. Cook.	For victualing and manning United States steamer Ella Morse, at \$1,200 p-r month.	
685	Galveston, Texas, Oct. 31, 1866	Lieut. W. W. Clemens and L. B. Hall.	For charter of the Schooner Telumab, (240 tons,) at \$1,050 per month.	
686	Macon, Ga., Oct. 16, 1866	Lieut. Col. E. B. Carling and G. B. Hack.	For constructing a fence around the National Cemetery at Lawton, Georgia, at \$1 for each lineal foot.	1,000 00

Abstract of contracts made by the Quartermaster's department, &c.—Continued.

No.	Place and date.	Parties.	Nature of contract.	Bond.
687	Wilmington, Cal., Aug. 24, 1866	Lieut. J. E. Yard and Phineas Banning	For carrying a weekly military mail between Wilmington and Fort Yuma, California, at \$150 per month, in gold.	\$5,000 00
688	Fort Boise, I. T., Sept. 19, 1866	Capt. T. J. Eckerson and Thomas Davis	For 50 tons of oat straw, (baled,) at \$18 87 per ton, in gold	1,000 00
689	Fort Boise, I. T., Sept. 20, 1866	Capt. T. J. Eckerson and J. R. Robbins	For 600,000 pounds of oats and barley, at 8½ cents per pound, in coin; 1,000 cords wood, at \$13 50 per cord, in coin.	10,000 00
690	Fort Boise, I. T., Sept. 19, 1866	Capt. T. J. Eckerson and C. W. Slooem	For 1,000 bushels charcoal, at 38 cents per bushel, in coin	500 00
691	Fort Boise, I. T., Sept. 20, 1866	Capt. T. J. Eckerson and E. Crouch	For 400 tons of baled hay, at \$34 44 per ton, in gold	5,000 00
692	Montgomery, Ala., Nov. 16, 1866	Capt. John C. Grierson and C. B. Hinsdel	For 300 cords of wood, at \$7 95 per cord	3,000 00
693	Denver, C. T., Nov. 8, 1866	Brevet Col. J. B. Howard and A. Butters	For 1,000 bushels charcoal, at 85 cents per bushel	1,000 00
694	Washington, D. C., July 30, 1866	Lieut. Col. J. M. Moore and J. G. Shaw	For delivery at Richmond, Virginia, of 5,000 boxes for burial purposes, at \$2 21 each; headboards for graves, at 70 cents each.	.....
695	Savannah, Ga., Oct. 26, 1866	Lieut. Col. C. A. Reynolds and Fred'k Kreuson	For wood as required, at, for hard wood, \$7 50; pine, \$5 75	.....
696	Brownsville, Texas, Nov. 7, 1866	Capt. Wm. T. Howell and Alex. Werbiski	For wood as required, delivered at Brownsville, Texas, at \$5 50 per cord.	.....
697	Charleston, S. C., Oct. 27, 1866	Gen. R. O. Tyler and James Melvin	For transportation of supplies within the limits of the city of Charleston, South Carolina, at 25 cents per load of 1,000 pounds.	2,000 00
698	Fort Snelling, Minn., July 1, 1866	Capt. Theo. Schwan and A. H. Wilder	For transportation of government stores in the department of the Platte during the months of July, August, September, and October, 1866, and April, May, and June, 1867, at, per 100 pounds per mile, 1.34 cents, and during the months of November and December, 1866, and January, February, and March, 1867, at, per 100 pounds per mile, 1.55 cents.	10,000 00
699	Chattanooga, Tenn., Nov. 30, 1866	Major W. A. Wainwright and Thomas Blanchard	For 300 cords of wood, at \$3 45 per cord	2,000 00
700	Memphis, Tenn., Nov. 10, 1866	Col. A. R. Eddy and Elisha Jameson	For lumber as required, at, for poplar boards, \$40 per M; pine boards, \$80 per M; poplar scantling, \$35 per M.	2,000 00
701	Camp Winfield Scott, Nev., Oct. 27, 1866	Capt. W. B. Hughes and F. P. Brougham	For 100,000 pounds of barley, at 9½ cents per pound, in gold	2,500 00
702	Camp Winfield Scott, Nev., Oct. 27, 1866	Capt. W. B. Hughes and G. A. Middleton	For 100,000 pounds of barley, at 9½ cents per pound; 100,000 pounds of barley, at 10 cents per pound, in gold.	5,000 00
703	San Antonio, Texas, Nov. 24, 1866	Lieut. Col. J. G. C. Lee and P. Murphy	For 250 tons of hay, delivered at Camp Verde, Texas, at \$19 24 per ton; delivered at Fort Inge, at \$24 30 per ton; delivered at Fort Clark, at \$29 37½ per ton.	3,000 00
704	San Antonio, Texas, Nov. 19, 1866	Lieut. Col. J. G. C. Lee and C. G. Napier	For 600 tons of hay, at \$33 68 per ton	10,000 00
705	San Antonio, Texas, Nov. 19, 1866	Lieut. Col. J. G. C. Lee and James Trainer	For 250 tons of hay, at \$22 per ton	2,500 00
706	Nashville, Tenn., Aug. 27, 1866	Major E. B. Whitman and J. M. Palmer	For 52,200 coffins, (manufacturing,) 90 cents each; constructing fence, at 45 cents per lineal foot.	.....
707	New York city, Oct. 31, 1866	Major R. C. Morgan and E. Patten	For lease of room at No. 62 Clinton Place, New York, at \$69 33 per month.	.....
708	Fort Leavenworth, Kansas, Nov. 1, 1866	Gen. J. A. Potter and D. C. Sawin	For 914 cavalry horses at \$160 each	25,000 00
709	Fort Leavenworth, Kansas, Oct. 24, 1866	Gen. J. A. Potter and Moore & Rhea	For 100 cavalry horses, at \$164 each	5,000 00
710	Fort Stevens, Oregon, Sept. 1, 1866	Lieut. Wm. Borrowe and E. W. Davis	For 7 tons of straw, (baled,) at \$18 per ton, in gold	250 00
711	Fort Stephens, Oregon, Sept. 1, 1866	Lieut. Wm. Borrowe and George Flavel	For 40 tons of hay, in bales, at \$26 per ton, in gold; 1,200 bushels oats, in sacks, at 78 cents per bushel.	2,500 00
712	Fort Snelling, Minn., Nov. 5, 1866	Capt. Theo. Scheran and Henry Eames	For 400 tons of hay, at \$13 88 per ton	1,000 00
713	Santa Fé, N. M., Oct. 31, 1866	Col. H. M. Enos and A. Morrison	For 250,000 pounds of corn, at 6½ cents per pound	15,000 00

714	Santa Fé, N. M., Oct. 31, 1866.	Col. H. M. Enos and W. V. B. Wardwell	For 400,000 pounds of corn, delivered at Fort Craig, New Mexico, at 5½ cents per pound.	20,000 00
715	Port Albuquerque, N. M., Aug. 15, 1866.	Lieut. Hugh Johnson and W. F. Strachan	For 675 cords of wood, at \$14 per cord.	10,000 00
716	San Francisco, Cal., Oct. 23, 1866.	Major James T. Hoyt and Samuel Crim	For 78 cavalry horses, at \$83 each, in gold.	5,000 00
717	San Francisco, Cal., Oct. 30, 1866.	Major James T. Hoyt and J. S. McCue	For 85 cavalry horses, at \$73 each, in gold.	5,000 00
718	New Orleans, La., Oct. 6, 1866.	Capt. A. J. McGonnigle and C. G. Wayne	For transportation of troops and supplies from New Orleans, Louisiana, to Mobile, Alabama, or return:	12,000 00
			Officers, \$4 each; enlisted men, \$2 each; horses and mules, \$5 each; iron machinery, per cwt., 25 cents; coal, per ton, \$4; lumber, per M feet, \$6; dry goods, per barrel, 40 cents; wet goods, per barrel, 60 cents; hay, per bale, \$1; oats and corn, per bushel, 6 cents; measurement goods, cubic foot, 12½ cents; army wagons, \$7; spring wagons and ambulances, \$5 each.	
719	Madison barracks, N. Y., Nov. 20, 1866.	Lieut. W. Cox and B. Eveleigh	For hay as required, at \$12 per ton; oats, at 65 cents per bushel; straw, at \$8 per ton.	4,000 00
720	Buffalo, N. Y., Nov. 21, 1866.	Gen. R. Saxton and Wm. J. Williams	For building barracks and quarters at Fort Porter, New York, at \$14,000.	7,000 00
721	San Antonio, Texas, Nov. 10, 1866.	Lieut. Col. H. C. Ransom and John W. Glenn & Co.	For transportation of army supplies from San Antonio and Austin, Texas, to frontier posts, at \$2 10 per 100 pounds per 100 miles, from San Antonio, Texas, to Camp Verde, Forts Inge, Mason, Clark, and Austin, and for all other points than those mentioned, at \$2 25 per 100 pounds per 100 miles.	25,000 00
722	Fort Klamath, Oregon, Sept. 15, 1866.	Lieut. H. B. Oatman and Hawley & Ish	For 80,000 pounds oats and 200,000 pounds barley, at 4½ cents per pound, in coin.	10,000 00
723	Memphis, Tenn., Nov. 20, 1866.	Col. A. R. Eddy and G. O. Haywood	For 500 cords of wood, at \$7 per cord.	7,000 00
724	Fort Riley, Kansas, Nov. 20, 1866.	Capt. G. W. Bradley and E. G. Robinson	For 25,000 bushels corn, at 86 cents per bushel.	8,000 00
725	Augusta, Ga., Nov. 16, 1866.	Capt. C. A. M. Estes and D. C. Castlebury	For wood in quantities as required for three months, at \$7 per cord.	5,000 00
726	Louisville, Ky., Nov. 26, 1866.	Major S. R. Hamill and Clark & Mills	For oats, at 55 cents per bushel; hay, at \$20 per ton; corn, \$1 10 per bushel; straw, \$20 per ton, as required for six months.	
727	Baltimore, Md., Dec. 5, 1866.	Major A. S. Kimball and James Polk	For lease of premises No. 31 North Calvert street, Baltimore, at \$31 per month.	
728	New York, N. Y., Nov. 1, 1866.	Major R. C. Morgan and Harriette Berrynerd	For lease of premises No. 7 Bowling Green, New York, at \$1,250 per year.	
729	St. Louis, Mo., Nov. 1, 1866.	Major J. L. Woods and Wm. Waddingham	For lease of premises Nos. 919, 921, and 923 North Main street, St. Louis, Missouri, at \$333 33 per month.	
730	Buffalo, N. Y., Dec. 1, 1866.	Gen. R. Saxton and O. Phelps	For lease of premises No. 6 South Division street, Buffalo, New York, at \$45 per month.	
731	Fort Leavenworth, Kansas, Nov. 27, 1866.	Gen. J. A. Potter and W. H. Bond	For 15,000 bushels corn, at 83 cents per bushel.	3,000 00
732	Fort Leavenworth, Kansas, Dec. 1, 1866.	Gen. J. A. Potter and T. C. Buckley	For 400 cords of wood, at \$9 per cord for first 200 cords, and \$9 75 for remaining 200 cords.	1,000 00
733	Fort Leavenworth, Kansas, Dec. 1, 1866.	Gen. J. A. Potter and Thomas Morgan	For 100 cords of wood, at \$9 75 per cord.	3,000 00
734	Fort Leavenworth, Kansas, Dec. 1, 1866.	Gen. J. A. Potter and Robert Hamilton	For 500 cords of wood, at \$9 74 per cord.	500 00
735	New York city, Dec. 19, 1866.	Major R. C. Morgan and H. Bonner	For lease of premises Nos. 120, 122, 124, and 126 Wooster street, New York, at \$15,000 per year.	
736	San Francisco, Cal., Nov. 10, 1866.	Major James T. Hoyt and Charles Silent	For 85 cavalry horses, at \$66 each, in gold.	5,000 00
737	San Antonio, Texas, Dec. 1, 1866.	Lieut. Col. J. G. C. Lee and W. A. Menger	For 4,800 bushels corn, at \$1 74 per bushel.	5,000 00
738	San Antonio, Texas, Dec. 1, 1866.	Lieut. Col. J. G. C. Lee and James Trainer	For 8,000 bushels corn, at \$1 84 per bushel.	8,000 00
739	San Antonio, Texas, Dec. 5, 1866.	Lieut. Col. J. G. C. Lee and Eli Cole	For 800 cords of wood, at \$7 15 per cord.	2,500 00
740	Boston, Mass., July 23, 1864.	Capt. W. W. McKim and B. G. Hathaway	For building barracks at Fort Sewell, Massachusetts, at \$1,195.	2,300 00
741	Shreveport, La., Nov. 6, 1866.	Lieut. B. Boggs and Howard & Wimbish	For wood as required at Shreveport, Louisiana, for six months, at \$5 50 per cord.	2,000 00
742	Santa Fé, N. M., Nov. 17, 1866.	Col. H. M. Enos and Wm. Florshiem	For 175,000 pounds of shelled corn, at 6½ cents per pound.	10,000 00

Abstract of contracts made by the Quartermaster's department, &c.—Continued.

No.	Place and date.	Parties.	Nature of contract.	Bond.
743	Fort Riley, Kansas, Nov. 6, 1866.....	Capt. G. W. Bradley and J. K. Lull, jr.....	For 20,000 feet cotton-wood lumber, at \$40 per M feet.....	\$500 00
744	Fort Smith, Ark., Nov. 19, 1866.....	Lieut. J. E. Bennett and M. Pelby.....	For 400 cords hard wood, at \$4 93 per cord.....	4,000 00
745	Richmond, Va., Dec. 11, 1866.....	Gen. A. P. Blunt and Thomas J. Hayden.....	For wood as required for six months at Fredericksburg, Virginia, at \$5 40 per cord.	2,000 00
746	Richmond, Va., Dec. 11, 1866.....	Gen. A. P. Blunt and J. A. Beacham.....	For wood as required for six months at Fortress Monroe, Virginia, at \$5 70 per cord.	4,000 00
747	Richmond, Va., Dec. 11, 1866.....	Gen. A. P. Blunt and J. A. Beacham.....	For wood as required for six months at Yorktown, Virginia, at \$4 per cord.	.....
748	Richmond, Va., Nov. 28, 1866.....	Gen. A. P. Blunt and J. E. Mulford.....	For wood as required for six months at Richmond, Virginia, at \$6 25 per cord.	8,000 00
749	Fortress Monroe, Va., Dec. 1, 1866.....	Lieut. Col. Thos. G. Whytal and Peter Caviler.....	For victualling and manning barge Hope, at \$100 per month.....	.....
750	Baltimore, Md., Dec. 22, 1866.....	Capt. A. S. Kimball and A. Ainsworth.....	For victualling and manning tug Islander, at \$470 per month.....	.....
751	Savannah, Ga., Oct. 15, 1866.....	Capt. C. A. Reynolds and C. L. Colby & Co.....	For charter of steamer O. F. Potter, at \$50 per day.....	.....
752	Savannah, Ga., Aug. 25, 1866.....	Capt. C. A. Reynolds and Claghorn & Cunningham.	For charter of steamer Sylvan Shore, at \$1,000 for the voyage.....	.....

Respectfully submitted:

CHARLES THOMAS,
Assistant Quartermaster General, Brevet Major General U. S. A.

QUARTERMASTER GENERAL'S OFFICE, Washington, D. C., January 4, 1867.

LETTER

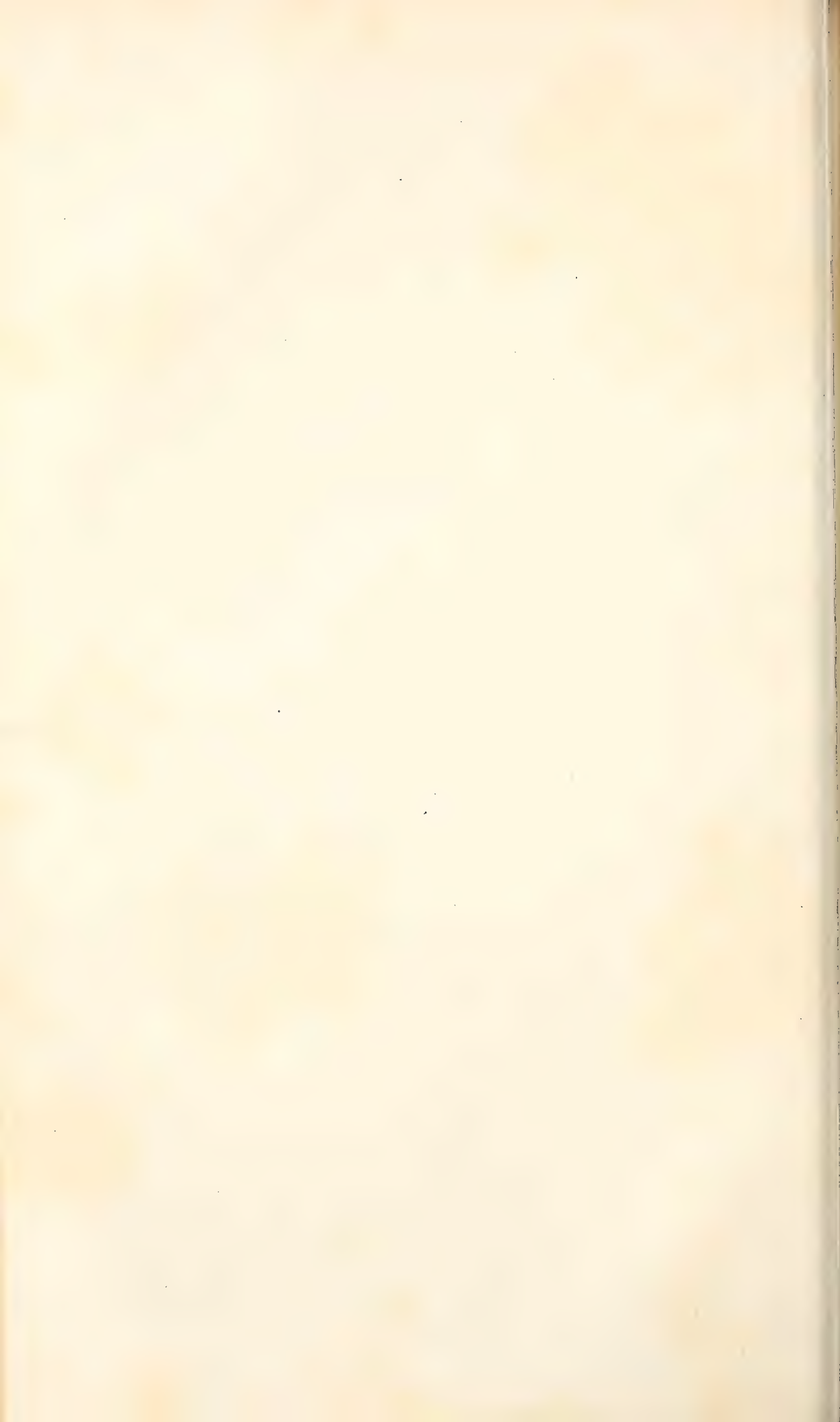
FROM THE

SECRETARY OF THE TREASURY,

TRANSMITTING

A REPORT UPON THE MINERAL RESOURCES OF THE
STATES AND TERRITORIES WEST OF THE
ROCKY MOUNTAINS.

WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1867.



LETTER

FROM

THE SECRETARY OF THE TREASURY,

TRANSMITTING

A report upon the mineral resources of the States and Territories west of the Rocky Mountains.

JANUARY 8, 1867.—Referred to the Committee on Mines and Mining and ordered to be printed.

TREASURY DEPARTMENT, *January 8, 1867.*

SIR: I have the honor to transmit a preliminary report upon the mineral resources of the States and Territories west of the Rocky mountains by Mr. J. Ross Browne, who was appointed special commissioner under a provision of the appropriation act of July 28, 1866, authorizing the collection by the Secretary of the Treasury of "reliable statistical information concerning the gold and silver mines of the western States and Territories."

An introductory communication from Mr. Browne is also enclosed, which will indicate the scope of the report, with some suggestions in regard to the future prosecution of the inquiry into the situation and prospects of gold and silver mining in the United States.

The commissioner has evidently availed himself of the best experience of the State of California, especially in the department of geological and mineralogical observation; and the present compilation of its results cannot fail to be a welcome contribution to the public information.

If Congress shall make the necessary appropriation for this object, it is the purpose of the Secretary to secure a similar body of scientific and statistical information in regard to the mining districts of New Mexico, Colorado, and Montana. A report upon the production of gold and silver in those Territories, and in the Vermillion and Alleghany districts of the United States, by Mr. James W. Taylor, will be forwarded from this department to the House of Representatives at an early day.

I am, very truly, your obedient servant,

H. McCULLOCH,
Secretary of the Treasury.

Hon. SCHUYLER COLFAX,
Speaker of the House of Representatives.

LETTER OF INSTRUCTIONS.

TREASURY DEPARTMENT, *August 2, 1866.*

SIR: In entering upon your duties as special commissioner to collect mining statistics in the States and Territories west of the Rocky mountains, it is im-

portant that you should clearly understand the objects designed to be accomplished by this department and by Congress.

The absence of reliable statistics in any department of the government on the subject of mines and mining in our new mineral regions, and the inconvenience resulting from it, induced Congress at its last session to appropriate the sum of ten thousand dollars for the collection of information of all kinds tending to show the extent and character of our mineral resources in the far west.

The special points of inquiry to which your attention will necessarily be directed are so varied and embrace so large a scope of country, that it will scarcely be practicable for you to report upon them in full by the next session of Congress.

I entertain the hope, however, that you will be enabled by that time to collect sufficient data to furnish, in the form of a preliminary report, the basis of a plan of operations by which we can in future procure information of a more detailed and comprehensive character.

The success of your visit to the mineral regions, in carrying out the objects contemplated, must depend in a great measure upon the judicious exercise of your own judgment, and upon your long practical acquaintance with the country, your thorough experience of mining operations, and your knowledge of the best and most economical means of procuring reliable information.

The department will not, therefore, undertake to give you detailed instructions upon every point that may arise in the course of your investigations. It desires to impress upon you in general terms a few important considerations for your guidance, leaving the rest to your own judgment and sense of duty.

1. All statistics should be obtained from such sources as can be relied upon. Their value will depend upon their accuracy and authenticity. All statements not based upon actual data should be free from prejudice or exaggeration.

2. In your preliminary report, a brief historical review of the origin of gold and silver mining on the Pacific coast would be interesting in connection with a statement of the present condition of the country, as tending to show the progress of settlement and civilization.

3. The geological formation of the great mineral belts and the general characteristics of the placer diggings and quartz ledges should be given in a concise form.

4. The different systems of mining in operation since 1848, showing the machinery used, the various processes of reducing the ores, the percentage of waste, and the net profits.

5. The population engaged in mining, exclusively and in part; the capital and labor employed; the value of improvements; the number of mills and steam-engines in operation; the yield of the mines worked; the average of dividends and average of losses, in all the operations of mining.

6. The proportion of agricultural and mineral lands in each district; the quantity of wood land, facilities for obtaining fuel; number and extent of streams and water privileges.

7. Salt beds, deposits of soda and borax, and all other valuable mineral deposits.

8. The altitude, character of the climate, mode and cost of living; cost of all kinds of material; cost of labor, &c.

9. The population of the various mining towns; the number of banks and banking institutions in them; the modes of assaying, melting and refining bullion; the charges upon the same for transportation and insurance.

10. Facilities in the way of communication; postal and telegraphic lines; stage routes in operation; cost of travel; probable benefits likely to result from the construction of the Pacific railroad and its proposed branches.

11. The necessity for assay offices and public depositories; what financial facilities may tend to develop the country and enhance its products.

12. Copies of all local mining laws and customs now regulating the holding and working of claims.

13. The number of ledges opened and the number claimed ; the character of the soil and its adaptation to the support of a large population.

Upon all these points it is very desirable that we should possess reliable information. Whatever tends to develop the vast resources of our new States and Territories must add to the wealth of the whole country.

I am extremely solicitous that the information collected should be ample and authentic.

Trusting that you may be enabled to make such a report as will be of great public utility, and at the same time promote the interests of the miners to whose industry and energy so much is due,

I am, very respectfully, your obedient servant,

H. McCULLOCH,
Secretary of the Treasury.

J. ROSS BROWNE, Esq.,
Washington, D. C.

LETTER

FROM

J. ROSS BROWNE,

SPECIAL COMMISSIONER FOR THE COLLECTION OF MINING STATISTICS,

TO THE

SECRETARY OF THE TREASURY.

SAN FRANCISCO, CALIFORNIA,

November, 24, 1866.

SIR : I had the honor to send you by last steamer a preliminary report on the mineral resources of the States and Territories west of the Rocky mountains.

Congress at its last session appropriated ten thousand dollars "to enable the Secretary of the Treasury to collect reliable statistical information concerning the gold and silver mines of the western States and Territories," &c. Under a letter of appointment, dated August 2, 1866, and in accordance with detailed instructions of same date, I entered upon the discharge of the duties assigned to me, immediately upon my arrival at San Francisco, September 3, ultimo.

The views of the department, as to the impracticability of reporting in detail by the next session of Congress, were fully realized when I came to consider the magnitude of the subject and the immense scope of country over which the inquiry extended.

You were pleased to express the hope, however, that I would be enabled to collect by the meeting of Congress "sufficient data to furnish, in the form of a preliminary report, the basis of a plan of operations" by which information of a more detailed and comprehensive character could be procured in future.

To obtain any geological or statistical data whatever, within the brief space of two months, precluded the possibility of a personal visit to the mineral regions prior to the transmission of my report. The experience of Mr. William Ashburner and of Mr. A. Rémond, members of the State geological survey, satisfied me that it would be utterly impracticable to examine the mines of a single district, much less of all the States and Territories west of the Rocky mountains, within that time. Mr. Ashburner spent eight months in procuring data for a single table, showing the operations of the principal quartz mills in Mariposa, Tuolumne, Calaveras, Amador, El Dorado, Plumas, Sierra, and Nevada counties. Mr. Rémond spent three months in visiting the principal mines and mills in that part of Mariposa and Tuolumne counties lying between the Merced and Stanislaus rivers; and three months more in preparing tables showing the results of his observations.

Under these circumstances, and in view of the fact that I had already visited nearly every mining district within the range of my instructions, and was familiar with the topography of the country and the general condition of the mining interest, I deemed it best to avail myself of such reliable sources of information as were immediately accessible. San Francisco being the central point of trade and commerce for the Pacific coast, afforded facilities in the way of statistical data and scientific aid which could not be obtained elsewhere. From this point nearly all the capital radiates; here the records of all mining enterprises are kept; and here centre the products of the mines.

The report to which your attention is respectfully invited embodies the results of many years of careful and laborious research. It is compiled from original data furnished by the most intelligent statisticians and experts known on this coast, as well as from notes made by myself during the past three years.

In many respects this report is imperfect. No reliable system has hitherto existed for the collection of mining statistics, such as the governments of Europe have long since deemed it expedient to establish. The existing system in the British colonies of Australia and North America, though not adapted to our mineral regions, or to the habits and customs of our people, is both thorough and comprehensive. Surveyors and registrars are appointed for each district; and all mining operations are carried on under their inspection. Monthly and quarterly reports are made by them, under the direction of a supervising officer, whose duty it is to collect and arrange all the data thus furnished for publication. These reports show the actual condition of every branch of mining industry from month to month and quarter to quarter, so that at the expiration of the year a complete history is given of the progress of development and the profits and losses of mining. A permanent system like this, established upon a somewhat different basis, is greatly needed in our country.

One of the difficulties already experienced in the collection of mining statistics on this coast is the disinclination of parties interested to expose the secrets of their business. Either the business is not remunerative and they desire to encourage further investments by false representations, or by withholding the truth; or, if unusually successful, they may consider it to their interest, in view of further purchases, arrangements, or contracts, to avoid giving publicity to the facts. I am inclined to believe, however, that the advantages of fair and truthful statements, in the encouragement of immigration, the reduction of the cost of labor, the promotion of confidence in mining enterprises, and the establishment of a more uniform system of laws, will soon become apparent. Indeed, the difficulty to which I refer is not so general, even now, as might be supposed. I have found mining companies, doing a steady and reliable business, nearly always disposed to furnish the desired information. The cases of refusal are exceptional, and there is usually a cause for it, well understood by persons familiar with mining enterprises.

Another difficulty, which, however, will not exist to so great an extent hereafter, has been the conflicting character of statements made by different parties. In many instances where the sources of information are equally reliable, but where conflicting influences prevail, it is almost impossible, after the lapse of any great length of time, to get at the exact truth. Even facts, seen from different stand-points, appear differently to the most conscientious persons. In cases of this kind, where the proofs on either side are not positive, I have preferred—sometimes at the expense of prolixity—to give the different statements, especially where there is a general concurrence of testimony as to the main facts. Thus, it will be seen that the amount of bullion produced on the Pacific coast is variously estimated by the best informed and most intelligent men. Mr. Ashburner's estimates are somewhat lower than those usually accepted by the public, but I believe they are well-considered. Gold and silver are so generally blended together under the head of "bullion," that none of the express companies or bankers have hitherto kept separate records of the products of each. It would be very difficult to obtain correct returns on this point, unless the numerous assay offices and the authorities at the branch mint could furnish details of the quantity obtained by parting, or by estimating the bullion passing through their establishments—the two metals are so universally alloyed with each other.

Mr. Swain, superintendent of the branch mint at San Francisco, a gentleman possessing both the means and the disposition to inform himself on this subject,

estimates the product of gold and silver for Oregon, California, Nevada, and Washington Territory, as follows :

In 1861.....	\$43, 391, 000
In 1862.....	49, 370, 000
In 1863.....	52, 500, 000
In 1864.....	63, 450, 000
In 1865.....	70, 000, 000

Well-informed parties estimate the product for 1866 as follows :

California.....	\$25, 000, 000
Montana.....	18, 000, 000
Idaho.....	17, 000, 000
Colorado.....	17, 000, 000
Nevada.....	16, 000, 000
Oregon.....	8, 000, 000
Other sources.....	5, 000, 000
Total.....	106, 000, 000

Great differences of opinion, however, exist as to the accuracy of this estimate. To some it appears exaggerated, while others pronounce it far below the actual yield. The imperfect returns received for the last nine months would seem to warrant the conclusion that it is not an unreasonable estimate. For instance, the product of Oregon is assumed to be \$8,000,000. Statistical tables, supposed to be worthy of credit, show a probable yield for that State of \$20,000,000. In 1865 the generally accepted estimate for Oregon was \$19,000,000, though that was probably above the actual product. There is good ground for believing that the result this year will be considerably above that of the last year. The same may be said of the Territories of Idaho and Montana.

In like manner, the capital in circulation in California, and necessary for the transaction of business within the limits of the State, is variously estimated at from \$25,000,000 to \$50,000,000. It is believed that \$10,000,000 is annually shipped up to the mines to defray the current expenses of mining ; but there is no record of the return of this amount in the form of a circulating medium.

Assuming the estimate of the product of bullion, as above given, to be approximately correct, it will be seen that the States and Territories on the Pacific slope produce annually upwards of \$100,000,000 of the precious metals, a quantity more than four times as great as the total product of the world less than thirty years ago. The improved processes for the extraction of these metals from their ores, made within the past two years, and the constantly increasing area over which gold and silver mines are being developed, furnish strong guarantees that there will be no abatement in the product for years to come, provided government places no impediments in the way by impolitic legislation. The recent financial panic in Europe afforded an illustration of the importance of encouraging this branch of industry. Within sixty days, during that panic, there was exported from San Francisco the enormous sum of \$12,000,000 in gold and silver, without which, it is well known, the commercial interests of the United States would have suffered in sympathy with those of our best customers in England. The shipments of specie from San Francisco to New York during the first eight months of 1866 amounted to \$27,729,010.

There is a more striking form in which the importance of the gold and silver mines of the Pacific coast on the national welfare may be illustrated.

The product of these metals for the present year exceeds in amount all the gold and silver in the national treasury, and in all the banks in all the States

The report of the Secretary of the Treasury shows that the bul-

lion in that department on the 1st of August last was.....	\$61, 000, 000
The banks at New York, at same date, report having.....	5, 000, 000
The banks at Boston and Philadelphia report.....	600, 000
The last quarterly report of all the national banks in the United States, outside of the above cities, reports.....	1, 600, 000
State banks outside of those cities estimated at.....	1, 500, 000
Total	69, 700, 000

The approximate estimate already given of the gold and silver product of the Pacific States and Territories for 1866 shows a total of \$106,000,000, or nearly double the combined bullion of the government and all the banks in the country.

For convenience of reference the report transmitted to you is divided into sections and clauses, of which the following is a brief summary:

Section 1 contains a historical sketch of the discovery of gold and silver in the territory of the United States west of the Rocky mountains; the excitement consequent upon the development of rich placer diggings in California; the crude means adopted in the early stages of gold mining on the Pacific coast; the introduction of improved processes, and the extraordinary results that followed in the sudden increase of commerce and the extension of the area of civilization. In this section a sketch is also given of the discovery of the Comstock lode and the development of the silver mining interest east of the Sierra Nevada mountains.

Section 2 refers chiefly to the geological features of California, and the prominent characteristics of the principal lodes in the great mineral belt. The present production of the gold mines is given from actual data derived from investigations made by Professor Ashburner, of the State geological survey, and a comparison is made between the products of California and Australia. Detailed descriptions are given of a few leading mines in Grass Valley and Mariposa, showing the expenses and profits of gold mining as a permanent business.

Section 3 gives minute details and statistics of the gold and silver mining interests on the Pacific coast; the improved processes and results; the exports of treasure from San Francisco, with the amounts received from the mines; cost of extracting the ore and reducing it; the average yield; the machinery in use; capital and labor employed, and cost of working.

Section 4 gives a historical and topographical sketch of Nevada; the prominent characteristics of the principal silver mines; the alkali lakes, salt-beds, wood and water privileges, and general products. Carefully prepared statistics are given in this section, showing the expenses of silver mining, the various processes of crushing and amalgamating the ores, the number of mills in actual operation, the profits and losses, with a general review of the condition of the mining interest. It also contains brief sketches of Utah, Idaho, Oregon, Washington Territory, Montana and Arizona, with such reliable data, showing the condition and prospects of the mines, as could be obtained.

Section 5 is devoted to the copper mines of the Pacific coast. In this paper a history of the discovery of every notable copper lode is given; the extent of the veins; the quality of the ore; the processes of reduction; the costs of machinery and working; the yield, and the profits and losses. Special attention is called to the great national importance of this interest.

Section 6 contains a report on the quicksilver mines of California, with statistics of production.

Section 7 gives the history of the discovery of borax in California; the process of working the borax deposits; their extent and value; some account of

the sulphur deposits; and reports on the tin mines of Temescal, and the coal and iron resources of the Pacific coast.

Section 8. Mining regions, population, altitude, &c.

Section 9. An annotated catalogue of the minerals found west of the Rocky mountains.

Section 10. Mining titles; the laws and customs of foreign governments; the crown right, and peculiar doctrines held under that right; the recent legislation of our own government; recommendations of the Secretary of the Treasury; passage of a law for the sale of mineral lands, and general approval of the policy adopted.

Section 11. Local customs; difficulties arising therefrom; the necessity of some uniform system; importance of congressional legislation for the systematic working of the mines, and the establishment of a permanent policy for the development of the great mineral resources of the country.

Section 12. A list of the most important works published in reference to the geology, mineralogy, and metallurgy of the Pacific coast.

Section 13. Population of the mining regions; agricultural resources; table of distances, &c.

From the above synopsis it will be seen that an earnest attempt, at least, has been made to meet the wishes of the department as expressed in the letter of instructions hereto appended. Want of time for a more systematic arrangement has been the only serious obstacle to more satisfactory results.

One of the most important subjects considered in the report is the discrepancies existing between the local rules and customs upon which a material part of the late mineral land law is based and the statutes of the States and Territories. The policy of granting titles to the miners in fee-simple has met with such universal approval, and the time has been so short since the law went into operation, that I have serious doubts as to the expediency of an immediate change. Attention has been called to some of the difficulties arising from the loose interpretations given to local rules and customs, and in many cases the entire impracticability of determining what they are or ascertaining where they are to be found. Some provision requiring official records to be kept might, perhaps, have a beneficial effect. Reasons doubtless exist for differences in the size of the claims in different districts. The rules which would apply to the Reese River district, where the ledges are extremely narrow and close to each other, would scarcely be applicable to districts in which the ledges are of great width and far apart. Still, without descending to details in a general law, some regard should be had to uniformity; and especially some fixed principle should be adopted as to the local laws which shall govern in all conflicting cases. The policy of giving every advantage to the practical miner over the mere speculator will at once be conceded. This, I think, can only be carried into effect by national legislation. A general law, based somewhat upon the principles incorporated in the mining law of Mexico, but more liberal in its provisions, will probably be required before long. The holding of claims without working; the seizure of mining property for debt; the abandonment of claims; the destruction of timber; the monopoly of salt-beds; these are subjects worthy of serious consideration.

In the preparation of a preliminary report I have been compelled to depend chiefly upon the labors of other and abler hands. To Mr. Hittell, author of a very excellent work on the resources of California, Professor Whitney, Mr. Ashburner, and Mr. Gabb, of the State geological survey, Professor Blake, author of various standard works on the geology and mineral resources of California, Baron Von Richtofen, the distinguished German savant, Mr. Degroot, an experienced statistician and topographer, Mr. Bennett, a mining expert, thoroughly familiar with the mineral regions, to Dr. Blachley, of Nevada, and others, I am indebted for nearly all that is valuable in the report.

It is my intention to visit the various mineral districts of the Pacific slope during the coming spring and summer. Personal examination of the mines, increased experience, and sufficient time for the careful preparation of the material collected, will enable me, I trust, to present for your consideration, before the next meeting of Congress, a report better worthy of your approval than that just submitted. Reliable statistics and valuable information, showing the resources and products of our new States and Territories, cannot fail to result beneficially to the country and the government. Nothing can tend in a greater degree to encourage immigration and the investment of capital.

The question arises, how can the object be best accomplished in the future? A statistical bureau for the Pacific coast has been recommended.

It is manifest to my mind that the work cannot be properly done by bureau organization. Information derived from interested parties by means of blanks and circulars, sent out over the mining regions, would be very imperfect and for the most part unreliable.

The plan that appears to me most feasible would be—

1st. To authorize the appointment in each State and Territory of an able and experienced geologist, familiar with all the operations of mining.

2d. Annual reports to be made by each officer so appointed and assigned to duty, under official instructions, to the supervising commissioner at San Francisco.

3d. The commissioner to make a visit every year to each mining district, for the purpose of personal inspection of the mines, and conference with his assistants; after which he would be prepared to make his annual report to the Secretary of the Treasury.

Proper measures, of course, would be taken to secure the official returns of assessors, surveyors, tax collectors, and other local State or territorial officers.

The expense would be comparatively trifling, inasmuch as the services of professional experts could be had without requiring their entire time. A small compensation to each would be an object of some importance.

An appropriation of \$25,000 would probably be sufficient to inaugurate such a system, though a much larger amount could be advantageously expended.

In the hope that these suggestions, hastily made and informally stated, may at least furnish some ground for action, I have the honor to be, very respectfully, your obedient servant,

J. ROSS BROWNE,
Special Commissioner.

Hon. H. McCulloch,
Secretary of the Treasury.

SECTION 1.

HISTORICAL SKETCH OF GOLD AND SILVER MINING ON THE PACIFIC SLOPE.

1. First mention of gold.—2. Gold found before 1848.—3. Marshall's discovery.—4. The gold discovery in print.—5. Excitement abroad.—6. Pan washing.—7. The rocker.—8. Mining ditches.—9. Miners' "rushes."—10. Gold Lake and Gold Bluff.—11. The "tom."—12. The sluice.—13. Placer leads traced to quartz.—14. A gold-dredging machine.—15. Decrease of wages.—16. Growth of the quartz interest.—17. Failures in quartz.—18. Improvement in quartz mining.—19. The hydraulic process.—20. Hill mining.—21. Decline of river mining.—22. "Rushes" to Australia.—23. The Kern river excitement.—24. Ancient rivers.—25. The Tuolumne table mountain.—26. The Fraser fever.—27. Discovery of Comstock lode.—28. The Washoe excitement.—29. The barrel and yard process.—30. The pan process.—31. Growth of the Washoe excitement.—32. Virginia City.—33. The silver panic.—34. Litigation about the Comstock ledge.—35. The many-lode theory.—36. Expenses increasing with depth.—37. Some characteristics of Esmeralda, Humboldt, and Reese rivers.—38. Sutro tunnel project and—39. Baron Richthofen's report.—40. Columbia basin and Cariboo mines.

1.—FIRST MENTION OF GOLD.

The first mention of gold in California is made in Hakluyt's account of the voyage of Sir Francis Drake, who spent five weeks in June and July, 1579, in a bay near latitude 38° ; whether Drake's bay or San Francisco bay is a matter of dispute. It certainly was one of the two, and of neither can we now say with truth, as Hakluyt said seriously, "There is no part of the earth here to be taken up wherein there is not a reasonable quantity of gold or silver." This statement, taken literally, is untrue, and it was probably made without any foundation, merely for the purpose of embellishing the story and magnifying the importance of Drake and of the country which he claimed to have added to the possessions of the English crown.

If any "reasonable quantity" of gold or silver had been obtained by the English adventurers, we should probably have had some account of their expeditions into the interior, of the manner and place in which the precious metals were obtained, and of the specimens which were brought home, but of these things there is no mention.

Neither gold nor silver exists "in reasonable quantity" near the ocean about latitude 38° , and the inference is that Drake's discovery of gold in California was a matter of fiction more than of fact.

2.—GOLD FOUND BEFORE 1848.

Some small deposits of placer gold were found by Mexicans near the Colorado river at various times from 1775 to 1828, and in the latter year a similar discovery was made at San Isidro, in what is now San Diego county, and in 1802 a mineral vein, supposed to contain silver, at Olizal, in the district of Monterey, attracted some attention, but no profitable mining was done at either of these places.

Forbes, who wrote the history of California in 1835, said "No minerals of particular importance have yet been found in Upper California, nor any ores of metals."

It was in 1838, sixty-nine years after the arrival of the Franciscan friars, and the establishment of the first mission, that the placers of San Francisquito,

forty-five miles northwest from Los Angeles, was discovered. The deposit of gold was neither extensive nor rich, but it was worked steadily for twenty years. In 1841 the exploring expedition of Commodore Wilkes visited the coast, and its mineralogist, James D. Dana, made a trip overland from the Columbia river, by way of the Willamette and Sacramento valleys to San Francisco bay, and in the following year he published a book on mineralogy, and mentioned in it that gold was found in the Sacramento valley, and that rocks similar to those of the auriferous formations were observed in southern Oregon. Dana did not regard his discovery as of any practical value, and if he said anything about it in California no one paid any attention to it. Nevertheless, many persons had an idea that the country was rich in minerals, and on the 4th of May, 1846, Thomas O. Larkin, then United States consul in Monterey, a gentleman usually careful to keep his statements within the limits of truth, said in an official letter to James Buchanan, then Secretary of State, "There is no doubt but that gold, silver, quicksilver, copper, lead, sulphur and coal mines are to be found all over California, and it is equally doubtful whether, under their present owners, they will ever be worked."

The implication here is that if the country were only transferred to the American flag, these mines, of whose existence he knew nothing save by surmise, or by the assertion of incompetent persons, would soon be opened and worked. In sixty-six days after that letter was written, the stars and stripes were hoisted in Monterey, and now California is working mines of all the minerals mentioned by Larkin save lead, which also might be produced if it would pay, since there is no lack of its ores.

3.—MARSHALL'S DISCOVERY.

The discovery of the rich gold fields of the Sacramento basin is an American achievement, accomplished under the American dominion, by a native of the United States, and made of world-wide importance by American enterprise and industry, favored by the liberal policy of American law.

It was on the 19th day of January, 1848, ten days before the treaty of Guadalupe Hidalgo was signed, and three months before the ratified copies were exchanged, that James W. Marshall, while engaged in digging a race for a saw-mill at Coloma, about thirty-five miles eastward from Sutter's Fort, found some pieces of yellow metal, which he and the half dozen men working with him at the mill supposed to be gold. He felt confident that he had made a discovery of great importance, but he knew nothing of either chemistry or gold mining, so he could not prove the nature of the metal or tell how to obtain it in paying quantities. Every morning he went down to the race to look for the bits of the metal; but the other men at the mill thought Marshall was very wild in his ideas, and they continued their labors in building the mill, and in sowing wheat, and planting vegetables. The swift current of the mill-race washed away a considerable body of earthy matter, leaving the coarse particles of gold behind, so Marshall's collection of specimens continued to accumulate, and his associates began to think there might be something in his gold mine after all. About the middle of February, a Mr. Bennett, one of the party employed at the mill, went to San Francisco for the purpose of learning whether this metal was precious, and there he was introduced to Isaac Humphrey, who had washed for gold in Georgia. The experienced miner saw at a glance that he had the true stuff before him, and after a few inquiries he was satisfied that the diggings must be rich. He made immediate preparation to go to the mill, and tried to persuade some of his friends to go with him, but they thought it would be only a waste of time and money, so he went with Bennett for his sole companion.

He arrived at Coloma on the 7th of March and found the work at the mill going on as if no gold existed in the neighborhood. The next day he took a

pan and spade and washed some of the dirt from the bottom of the mill race in places where Marshall had found his specimens, and in a few hours Humphrey declared that these mines were far richer than any in Georgia.

He now made a rocker and went to work washing gold industriously, and every day yielded him an ounce or two of metal. The men at the mill made rockers for themselves, and all were soon busy in search of the yellow metal.

Everything else was abandoned; the rumor of the discovery spread slowly. In the middle of March, Pearson B. Reading, the owner of a large ranch at the head of the Sacramento valley, happened to visit Sutter's Fort, and hearing of the mining at Coloma, he went thither to see it. He said that if similarity of formation could be taken as proof, there must be gold mines near his ranch, so after observing the method of washing, he posted off, and in a few weeks he was at work on the bars of Clear creek, nearly two hundred miles northwestward from Coloma. A few days after Reading had left, John Bidwell, now representative of the northern district of the State in the lower house of Congress, came to Coloma, and the result of his visit was that in less than a month he had a party of Indians from his ranch washing gold on the bars of Feather river, seventy-five miles northwestward from Coloma. Thus the mines were opened at far distant points.

4.—THE GOLD DISCOVERY IN PRINT.

The first printed notice of the discovery was given in the California newspaper published in San Francisco, on the 15th of March, as follows:

"In the newly made race-way of the saw-mill recently erected by Captain Sutter on the American Fork, gold has been found in considerable quantities. One person brought thirty dollars to New Helvetia, gathered there in a short time."

On the 29th of May the same paper, announcing that its publication would be suspended, says:

"The whole country, from San Francisco to Los Angeles, and from the seashore to the base of the Sierra Nevada, resounds with the sordid cry of *gold! gold! gold!* while the field is left half planted, the house half built, and everything neglected but the manufacture of picks and shovels, and the means of transportation to the spot where one man obtained one hundred and twenty-eight dollar's worth of the real stuff in one day's washing; and the average for all concerned is twenty dollars per diem."

The towns and farms were deserted, or left to the care of women and children, while rancheros, wood-choppers, mechanics, vaqueros, and soldiers and sailors who had deserted or obtained leave of absence, devoted all their energies to washing the auriferous gravel of the Sacramento basin. Never satisfied, however much they might be making, they were continually looking for new placers which might yield them twice or thrice as much as they had made before. Thus the area of their labors gradually extended, and at the end of 1848 miners were at work in every large stream on the western slope of the Sierra Nevada, from the Feather to the Tuolumne river, a distance of one hundred and fifty miles, and also at Reading's diggings, in the northwestern corner of the Sacramento valley.

5.—EXCITEMENT ABROAD.

The first rumors of the gold discovery were received in the Atlantic State^s and in foreign countries with incredulity and ridicule; but soon the receipts of the precious metal in large quantities, and the enthusiastic letters of army officers and of men in good repute, changed the current of feeling, and an excitement almost unparalleled ensued. Oregon, the Hawaiian islands, and Sonora sent their thousands to share in the auriferous harvest of the first year; and in the

following spring all the adventurous young Americans east of the Rocky mountains wanted to go to the new Eldorado; where, as they imagined, everybody was rich, and gold could be dug by the shovelful from the bed of every stream.

Before 1850 the population of California had risen from 15,000, as it was in 1847, to 100,000, and the average increase annually for five or six years was 50,000.

As the number of mines increased, so did the gold production and the extent and variety of the gold fields.

In 1849 the placers of Trinity and Mariposa were opened, and in the following years those of Klamath and Scott's valleys. During the last sixteen years no rich and extensive gold fields have been discovered, though many little placers have been found, and some very valuable deposits, previously unknown, have been brought to light in districts which had been worked previous to 1851.

6.—PAN WASHING.

In the first two years the miners depended mainly for their profits on the pan and the rocker. The placer miner's pan is made of sheet iron, or tinned iron, with a flat bottom about a foot in diameter, and sides six inches high, inclining outwards at an angle of thirty or forty degrees.

We frequently see and hear the phrase "golden sands," as if the gold were contained in loose sand; but usually it is found in a tough clay which envelops gravel and large boulders as well as sand. This clay must be thoroughly dissolved; so the miner fills his pan with it, goes to the bank of the river, squats down there, puts his pan under water and shakes it horizontally, so as to get the mass thoroughly soaked; then he picks out the larger stones with one hand and mashes up the largest and toughest lumps of clay, and again shakes his pan; and when all the dirt appears to be dissolved so that the gold can be carried to the bottom by its weight, he tilts up the pan a little to let the thin mud and light sand run out; and thus he works until he has washed out all except the metal which remains at the bottom.

7.—THE ROCKER.

The rocker, which was introduced into the California mines at their discovery, is made somewhat like a child's cradle. On the upper end is a riddle, made with a bottom of sheet-iron punched with holes. This riddle is filled with pay-dirt, and a man rocks the machine with one hand while with a dipper he pours water into the riddle with the other. With the help of the agitation, the liquid dissolves the clay and carries it down with the gold into the floor of the rocker, where the metal is caught by traverse riffles or cleets, while the mud, water, and sand run off at the lower end of the rocker, which is left open. The riddle can be taken off so that the larger stones can be conveniently thrown out.

In places where there was not water enough for washing, and where the gold was coarse, the miners sometimes scratched the metal from the crevices in the rocks with their knives; but the pan and rocker were their main reliance for three or four years.

In many places the rich spots were soon exhausted, and there was a rapid decrease in the profits of the miners. It was necessary that they should devise new and more expeditious methods of working, so that they could wash more in a day, and thus derive as much profit as they had obtained by washing a little dirt.

8.—MINING DITCHES.

The chief want of the placer miner is an abundant and convenient supply of water, and the first noteworthy attempt to convey the needful element in an artificial channel was made at Coyote Hill, in Nevada county, in March, 1850.

This ditch was about two miles long, and, proving a decided success, was imitated in many other places, until, in the course of eight years, six thousand miles of mining canals had been made, supplying all the principal placer districts with water, and furnishing the means for obtaining the greater portion of the gold yield of the State. Many of the ditches were marvels of engineering skill.

The problem was to get the largest amount of water at the greatest altitude above the auriferous ground, and at the least immediate expense, as money was worth from three to ten per cent. per month interest. As the pay-dirt might be exhausted within a couple of years, and as the anticipated profits would in a short time be sufficient to pay for an entirely new ditch, durability was a point of minor importance. There was no imperial treasury to supply the funds for a durable aqueduct in every township, nor could the impatient miners wait a decennium for the completion of gigantic structures in stone and mortar. The high value of their time and the scarcity of their money made it necessary that the cheapest and most expeditious expedients for obtaining water should be adopted. Where the surface of the ground furnished the proper grade, a ditch was dug in the earth; and where it did not, flumes were built of wood and sustained in the air by frame-work that rose sometimes to a height of three hundred feet in crossing deep ravines, and extending for miles at an elevation of a hundred or two hundred feet.

All the devices known to mechanics for conveying water from hill-top to hill-top were adopted. Aqueducts of wood and pipes of iron were suspended upon cables of wire, or sustained on bridging of wood; and inverted siphons carried water up the sides of one hill by the heavier pressure from the higher side of another.

The ditches were usually the property of companies, of which there were at one time four hundred in the State, owning a total length of six thousand miles of canals and flumes.

The largest of these; called the Eureka, in Nevada county, has two hundred and five miles of ditches, constructed at a cost of \$900,000; and their receipts at one time from the sale of water were \$6,000 per day. Unfortunately these mining canals, though more numerous, more extensive, and bolder in design than the aqueducts of Rome, were less durable, and some of them have been abandoned and allowed to go to ruin, so that scarcely a trace of their existence remains, save in the heaps of gravel from which the clay and loam were washed in the search for gold.

As the placers in many districts were gradually exhausted, the demand for water and the profits of the ditch companies decreased; and the more expensive flumes, when blown down by severe storms, carried away by floods, or destroyed by the decay of the wood, were not repaired.

9.—MINERS' "RUSHES."

The year 1850 was marked by the first of a multitude of "rushes" or sudden migrations in search of imaginary rich diggings.

The miners, although generally men of rare intelligence as compared with the laborers in other countries, had vague ideas of the geological distribution of gold, and the marvellous amounts dug out by them, sometimes ascending to thousands of dollars per day to the laborer, excited their fancy so much that they could scarcely have formed a sound judgment if they had possessed the information necessary for its basis. Many believed that there must be some volcanic source from which the gold had been thrown up and scattered over the hills, and they thought that if they could only find that place, they would have nothing to do but to shovel up the precious metal and load their mules with it. More than once, long trains of pack animals were sent out in the confident expectation that they would get loads of gold within a few days.

No story was too extravagant to command credence. Men who had never earned more than a dollar a day before they came to California were dissatisfied when they were here clearing twenty dollars, and they were always ready to start off on some expedition in search of distant diggings reputed to be rich. Although the miners of to-day have better ideas of the auriferous deposits than they had sixteen years ago, and no longer expect to dig up the pure gold by the shovel, they are now, as they have been since the discovery of the mines, always prepared for migration to any new field of excitement.

10.—GOLD LAKE AND GOLD BLUFF.

In the spring of 1850 a story was circulated that gold was lying in heaps on the bank of Gold lake, a small body of water eastward of where Downieville now is. Thousands of men left good claims to join this rush, but after weeks or months they returned much poorer than they started. The next year witnessed a rush to Gold Bluff, on the ocean shore about latitude 41° .

The sea beating against a high auriferous hill had left a wide beach containing much gold, which was mixed with sand that was very rich in spots, but was shifted about under the influence of a heavy surf. A gentleman of much intelligence, secretary of a mining company which claimed a portion of the beach, examined the place and seriously wrote to his associates that each one would receive at least \$43,000,000 if the sand proved to be only one-tenth as rich as that which he had examined.

Several other similar statements were made in corroboration. The mining population were wonderfully excited by these reports, and preparations were made for a large migration to the golden beach; but more precise information was soon published, and most of the adventurers who had started were disenchanted before the vessels in which they were to sail could get to sea.

11.—THE "TOM."

The construction of hundreds of ditches within three or four years after the successful experiment at Coyote Hill gave a great impulse to placer mining, and had much influence to change its character. Before the water had been carried in artificial channels to the tops or high upon the sides of the hills, nearly all the miners spent their summers in washing the dirt in the bars of the rivers and their winters in working the beds of gullies, which were converted into brooks during the rainy season. In the gullies the supply of pay-dirt was usually small, and the claims were exhausted in the course of a few weeks.

On the bars the water was below the level of the pay-dirt, and had to be dipped or pumped up by hand.

These circumstances were favorable to the use of the rocker; but the ditch brought the water to places where the dirt was far more abundant and could be obtained with more facility, though it was poorer in quality, and, therefore, the washing of a larger quantity would be necessary to yield an equal profit.

New modes of working and new implements must be introduced to accomplish the greater amount of work, and the tom and the sluice came rapidly into use. The tom had been employed for years in the placers of Georgia, and some Georgians had their sluices in Nevada county in the latter part of 1849, and in February of the following year a party at Gold Run, in that county, finding that the bed of the ravine did not give them enough fall, made a long board trough on the hill-side leading down to their tom, and the pay-dirt from the claim was thrown up to a board platform, and from that thrown up to the head of the trough, and the water carried the dirt down to the tom.

I am indebted for information on this point to B. P. Avery, esq.

The purpose of this trough was mainly to save the labor of carrying the dirt by hand from the claim to the tom; but the trough having been once built, its

value in washing gold was soon apparent. It was, however, the ditch that gave opportunities for the general introduction of the tom and sluice, and in most districts they were unheard of until late in 1850 or 1851.

The tom is a trough about twelve feet long, eight inches deep, fifteen inches wide at the head and thirty at the foot.

A riddle of sheet iron punched with holes half an inch in diameter forms the bottom of the tom at the lower end, so placed that all the water and their mud shall fall down through the holes of the riddle and none pass over the sides or end. The water falls from the riddle into a flat box with transverse cleets or riffles, and these are to catch the gold.

A stream of water runs constantly through the tom, into the head of which the pay-dirt is thrown by several men, while one throws out the stones too large to pass through the riddle, and throws back to the head of the tom the lumps of clay which reach the foot without being dissolved.

12.—THE SLUICE.

The tom was a great improvement on the rocker, but it was soon superseded by a still greater, the sluice, which is a board trough, from a hundred to a thousand feet long, with transverse cleets at the lower end to catch the gold. With a descent of one foot in twenty the water rushes through it like a torrent, bearing down large stones and tearing the lumps of clay to pieces. The miners, of whom a dozen or a score may work at one sluice, have little to do save to throw in the dirt and take out the gold.

Occasionally it may be necessary to throw out some stones, or to shovel the dirt along to prevent the sluice from choking, but these attentions cost relatively very little time. The sluice is the best device heretofore used for washing gold, and is supposed to be unsurpassable. It has been used here more extensively than elsewhere, although it has been introduced by men who have been in our own mines, into Australia, New Zealand, British Columbia, Transylvania, and many other countries.

The sluice, though an original invention here, had been previously invented in Brazil; but it was never brought to much excellence there nor used extensively, and no such implement was known in 1849 in the industry of gold mining.

At first the sluices were made short, and afterwards lengthened, until some were a mile long, the length being greater as the gold was finer; that is, if the surface of the earth in the direction of the sluice was favorable. There were many little variations in the form of the sluice, to suit different circumstances.

The ground sluice is a mere ditch on a hill side or slope, and the miners dig up the bottom and dig down the banks, while the water carries away the clay and leaves the gold; but the dirt at the bottom of the ground sluice must afterwards be washed in a board sluice.

The ground sluice has been used to grade roads and to carry away snow from the streets of mining towns, as well as to wash gold.

In claims where many large stones were found in the pay-dirt, and had to be carried by the water through the board sluice, or where the sluice was to be used for a long period, they were paved with stones, because any wooden bottom was rapidly worn out. Sometimes the bed of a stream into which many sluices emptied was converted into a "tail sluice," which yielded a large revenue, with no labor save that of occasionally "cleaning up" or washing out the metal from the sand deposited in the crevices between the stones.

13.—PLACER LEADS TRACED TO QUARTZ.

The placer gold had originally been confined in rocky veins which were disintegrated by the action of chemical or mechanical forces, and the lighter

material was swept away by the water, while the heavier remained near its primeval position.

The gold found in the bars of large streams far from the mountains, after having been carried a long distance, is in small smooth particles, as though it had been ground fine and polished by long attrition.

In small gullies in the mountains the gold is usually coarse and rough, as if it had suffered little change after being freed from the quartz by which it was once surrounded.

In hundreds of instances the abundance of gold in a gully has been traced unmistakably to an auriferous quartz lode in the hill side above it, and the placer miners, following streaks of loose gold, have been brought to the rocky source from which it came.

In this manner the Allisen mine and the Comstock lode, not to mention other less celebrated mines or veins, were found. Such discoveries were made in 1850, and in the following year capitalists in New York and London, anxious to get their share of the marvellous wealth of the Sierra Nevada, formed companies to work the quartz mines at Grass valley and at Mariposa.

Millions of dollars were invested in machinery, and superintendents, with the wildest ideas, were sent to erect mills and to take charge of the precious metals. All these ventures proved complete failures. In most instances the machinery was utterly useless, and the superintendents utterly incompetent.

The castings for the mills lay about the wharves of San Francisco for many years, objects of curiosity for experienced miners, and of ridicule for the general public.

In one mill the metal was to be caught in a course sieve, and in another the quartz was to be crushed by a rolling ball. The mismanagement was so gross and the losses so severe that foreign capitalists became very shy of California quartz mines, and the development of that branch of industry was much retarded.

14.—A GOLD-DREDGING MACHINE.

It was not, however, in quartz mining alone that ridiculous blunders were made. Large sums of money were expended in the eastern States by men who had never seen a placer mine, and had no correct idea of the nature of the gold deposits, in making machinery to take gold more expeditiously from the river beds and bars than could be done by hand. One enterprising New York company sent a dredging machine to dig the metal from the bottom of the Yuba river, never questioning whether that stream was deep enough in the summer to float such a machine, or whether the tough clay and gravel in its bed could be dug up by a dredger, and entirely ignorant of the fact that the gold is mostly in the crevices of the bed-rock, where the spoon and knife of the skilful and attentive miner would be necessary for cleaning out the richest pockets.

15.—DECREASE OF WAGES.

With the introduction of the sluice, the ditch, and the hydraulic process, it became customary to hire laborers. The pan and the rocker required every man to be his own master.

In 1849 each miner worked for himself, or the exceptions were so few that they were almost unknown.

The method of working made it impossible for the employer to guard against the dishonesty of the servant, who could always make more in his own claim than any one could afford to give him. Men become servants usually because they have no capital, and cannot get into profitable employment without it; but there was no lack of profitable employment for the miner in 1849, nor did

he need any capital, even if he had it. But the sluice brought deep diggings, with large masses of pay-dirt, into demand, and the claims were held at high prices, so that their possession was in itself a capital.

There had been an abundance of rocker claims in 1849; but there were not enough good sluice claims three years later to supply one-third of the miners. The erection of a long sluice, the cutting of drains, often necessary to carry off the tailings, and the purchase of water from the ditch company, required capital, and the manner of cleaning up rendered it possible for the owner of a sluice to prevent his servants from stealing any considerable portion of his gold before it came to his possession. Thus it was that the custom of hiring miners for wages became common in the placer diggings.

In 1852 the wages were \$6 or \$7 per day; the next year about \$5, since which time they have gradually fallen, until now they are from \$2 to \$3 50 per day; the skilful quartz miner commanding the latter sum.

16.—GROWTH OF THE QUARTZ INTEREST.

The development of the quartz mining interest of the State has been slow and steady, unlike the placer mining, which, rising suddenly to gigantic proportions, soon reached its culminating point, and then began to decline rapidly.

The placers had been discovered by miners who were searching for them, and who spent much time and labor in the search; but in early years most of the richest auriferous lodes were found by men who were not looking for quartz.

Hunters, travellers, placer miners and road makers occasionally came, without thinking of it, upon valuable veins, which they immediately claimed, and proceeded to work or sell.

The first quartz miners in California were Mexicans, who knew how gold-bearing rocks were reduced in their native country.

They pounded up the quartz in mortars, or, if not rich enough to pay for reduction in that way, they made an arrastra or little circular stone pavement in the centre of which stood a post. To an arm extending out from this was hitched a mule which dragged round a heavy piece of granite, between which and the pavement, the quartz was pulverized, and, when fine, the gold was caught with quicksilver and separated from the base matter by washing.

This process required neither capital nor skilled labor, nor delay, nor a number of laborers. The owner of the arrastra could dig out his own rock one day, and reduce it the next.

As a matter of profit he usually selected only the richest pieces to work in the arrastra, throwing aside those portions that would not yield at the rate of \$75 or more per ton.

With experience in the observation of quartz, and a mode of working in which failure was almost impossible, these Mexicans frequently did very well.

17.—FAILURE IN QUARTZ.

Their success excited the envy of the Americans, who would purchase the claims at high prices, and tell the Mexicans to see the wonders that would be done by American enterprise.

The common result was that a large and costly steam mill was erected; a multitude of laborers were employed; they did not know how to select the rich from the poor quartz; the mill was so large that it could not be kept going at its full capacity without receiving all the poor as well as the rich rock accessible in the vein; the amalgamator did not understand his business; the rich rock in which the Mexicans had been at work was soon exhausted; the creditors who had loaned money for the erection of the mill brought suit to foreclose

their mortgage; the work stopped; the title of the property was insecure; and the people in the neighborhood said quartz mining was a very uncertain business. And so it is under that system of management; and that system, leading to failure, was followed in more than a hundred cases. Mills were built in places where only a little pocket of rich quartz had been found, and if the pay-quartz was abundant it was not properly selected; or, if selected, the amalgamation was intrusted to a man who knew nothing of the business, and the gold was lost.

Horace Greeley was near the truth when he said, "I am confident that fully three out of every four quartz mining enterprises have proved failures, or have at best achieved no positive success."*

And yet in nearly every case prudent and competent management would have secured success, perhaps on only a small scale, because in many instances the quantity of pay-rock was small. But the failure of three-fourths of the quartz mills built in early years did not prevent the continuous increase of mills, and of the yield of gold from quartz. When a miner found a vein yellow with gold, he could not turn his back on it because his neighbor's mill did not pay. Gradually more caution was used; competent miners and metallurgists became numerous, and the veins were carefully examined as to the quantity of pay-rock before mills were built.

As the placers declined the miners were compelled to turn their attention to quartz, and prospecting for quartz became a regular business.

18.—IMPROVEMENT IN QUARTZ MINING.

In the mode of pulverizing and reducing quartz comparatively few changes have been made. In some mills the same machinery and processes have been used without alteration or addition for ten years. There is, however, a general belief that the business has not been properly studied by any one, and it is certain that there is much difference of opinion in regard to the various important questions involved in the reduction of ores. The practice is not uniform either in regard to the fineness of pulverization, or the size and speed of the stamps, or the mode of amalgamation. Wood, as a material for the shafts of stamps, has given way to iron; the square form has been replaced by the cylindrical; and the stamps, instead of falling with a simple downward motion, now come down with a twist. The mortar into which the stamps fall is now always of iron, and the stamps stand in a straight line instead of forming a circle, as they did in some mills years ago.

Two of the main improvements in gold quartz mining have been in the concentration and the chlorination of sulphurets.

19.—THE HYDRAULIC PROCESS.

The sluice, though perfect as a device for washing the dirt, was not the last invention in placer mining.

The shovel did not furnish earth to the sluice fast enough, and the wages of a dozen workmen must be saved if possible. In 1852, Edward E. Mattison, a native of Connecticut, invented the process of hydraulic mining, in which a stream of water was directed under a heavy pressure against a bank or hill-side containing placer gold, and the earth was torn down by the fluid and carried into the sluice to be washed; thus the expense of shovelling was entirely saved.

The man with the rocker might wash one cubic yard of earth in a day; with the tom he might average two yards; with the sluice four yards; and with the hydraulic and sluice together fifty or even a hundred yards.

* An Overland Journey from New York to San Francisco, in the summer of 1859, by Horace Greeley, page 289.

The difference is immense. A stream of water rushing through a two-inch pipe, under a pressure of two hundred feet perpendicular, has tremendous force, and the everlasting hills themselves crumble down before it as if they were but piles of cloud blown away by a breath of wind or dissipated by a glance of the sun.

And yet even this terrific power has not sufficed. When the hills have been dried by months of constant heat and drought, the clay becomes so hard that the hydraulic stream, with all its momentum, does not readily dissolve it, and much of the water runs off nearly clear through the sluice, and thus is wasted for the purposes of washing.

The sluice could wash more dirt than the hydraulic stream will furnish when the clay is hard and dry.

To prevent this loss, the miner will often cut a tunnel into the heart of his claim, and by powder blast the clay loose, so that it will give way more readily to the water. There have been instances in which two tons of powder have been used at one blast in a hydraulic claim.

20.—HILL MINING.

As the introduction of the ditch led to the use of the sluice and hydraulic power, so the introduction of the latter led to a change in the mining ground.

The miners were now able and they even preferred to attack high hills of gravel, which afforded them an immense mass of auriferous earth, and furnished profitable employment to large streams of water for months or even years.

Those counties which contained the most extensive districts suitable for the application of hydraulic power were the most prosperous, while the towns dependent on river mining or on shallow placers fell into decay, and were partially and in some cases entirely deserted.

21.—DECLINE OF RIVER MINING.

From 1850 till 1856 river mining occupied a very important place in the industry of the State. The beds of all the streams in the auriferous regions were rich in gold, which could only be obtained by taking the water from its natural course by means of dams and ditches or flumes. The beds being deep, and the banks steep, rocky, and crooked, these enterprises to drain the rivers were very expensive, and they were also very dangerous pecuniarily, since only a brief portion of the year was suitable for the work, and an early rain might come and sweep away dam and flume before an ounce of gold had been obtained. The comb of the Sierra Nevada along nearly its whole length rises almost to the limits of perpetual snow, and the white caps do not disappear, or the rivers reach a low stage until late in the summer, so that three months may be considered as the limit of the period in which a river could be flumed, and the bed emptied of its gold.

Every perennial stream of much note in the auriferous districts has been flumed at some time in its history, but within the last seven years such enterprises have become rarities. One of the most costly and most remarkable river flumes in the State was erected in 1857 to drain the Feather river at Oroville. It was three quarters of a mile long and twenty feet wide; the expenditures of the company during the season were \$176,985, and their profits \$75,000. They flumed the river again in 1858, and then lost \$45,000.

Since that year no extensive fluming enterprise has been undertaken in any part of the State, and the little work done in the beds of rivers is mostly left to Chinamen, who are content to work for much less pay than white men expect for their labor.

In some of the diggings the auriferous clay is so hard and tough that the hydraulic stream and sluice are unable to dissolve it, and mills have been built to

crush it fine, so that the water in the sluice can get an opportunity to dissolve all the earthy particles, and set free the metal.

The "cement mills," as they are called, are mostly of late construction.

22.—"RUSHES" TO AUSTRALIA.

The discovery of gold in Australia was made in 1851, by a miner from California, and it proved to be equal in magnitude to that in our own State; and, singular to say, it attracted little attention, and drew from us within two years only about a thousand of our residents, while many thousands were ready to rush to imaginary diggings in other directions.

Placer mining was at the height of its prosperity in 1852 and 1853. Wages were high, employment abundant for everybody that wished to hire out, and there was plenty of ground that would pay at least moderately for working with the rocker.

But the rich spots were few, and the miners who had shared the prosperity of 1849 were longing for the discovery of some new gold field that would again reward them with an ounce a day.

In the latter part of 1853, and the beginning of 1854, a series of newspaper letters and articles were published, asserting that there were very rich placers on the headwaters of the Amazon, in Peru.

These articles probably came from the same source, and must have been written with the deliberate purpose of throwing trade into the hands of a few ship-owners and merchants.

Whatever the design of the writer or writers may have been, the result was that two thousand miners went from California and Australia to Peru, where they found no placers, nor could they learn of any such place as that mentioned in the articles.

23.—THE KERN RIVER EXCITEMENT.

The next year was marked by a greater rush to Kern river, in the southern part of the State. Some small placers had been found there, and they served as the basis or the suggestion of a multitude of false letters, asserting that the basin of Kern river was as rich in gold as those of the American and Yuba rivers had been in 1849. These statements were copied into the newspapers, which had no means of verification, and the entire industry of the State was thrown into confusion. Miners abandoned good claims, farm laborers and clerks left their employers, the rate of wages and the cost of mining implements rose in the market, and soon six or eight thousand men were on the road to Kern river, and as many more were ready to start, when the newspapers began to show the folly of such a rush to diggings that had as yet produced no considerable amount of gold.

The tide of migration was arrested, and soon it turned back, the disappointed adventurers returning with the satisfaction of knowing that every river between the Mariposa and the Feather, even after seven years' working, was richer than Kern river had ever been.

24.—ANCIENT RIVERS.

It was in October, 1855, that a very remarkable discovery was made near Columbia, in Tuolumne county.

In various parts of the State, the miners in following up rich deposits of gold had come upon what appeared to be the channel of ancient rivers, which had been filled up and covered over with beds of clay and gravel in some places a thousand feet deep.

The high banks, the bars, the bends, the rapids, the deep places, the tribu-

tary gullies and brooks, the water-worn gravel, the remains of fresh-water mollusks, the flat stones pointing down stream, the heaps of gravel formed by eddies, the drift-wood, and the deposit of coarse gold in the centre and deep places of the channel—unmistakable evidences of a stream that had existed for centuries—were all distinctly recognizable.

In these ancient rivers the gold was distributed in the same manner as in those of the present geological era, but in greater abundance and usually in larger particles, as though it had not been subjected to so much wear.

The primeval streams were intersected in places by water courses of our own day, and these latter were usually richer just below the points of intersection than at any other places.

The largest and most noted of the ancient river beds yet discovered in California, called the Blue lead, runs nearly through the middle of Sierra and Nevada counties, has a width varying from a hundred to three hundred yards, and has been traced nearly forty miles.

Its course is at right angles to that of the present streams in the same neighborhood. The amount of gold taken from its bed has never been ascertained, but it cannot be less than \$25,000,000, and perhaps twice as much.

25.—THE TUOLUMNE TABLE MOUNTAIN.

The traveller in the mining districts frequently sees "table mountains;" that is, high rocky elevations, with flat surfaces and steep sides. They are evidently remains of lava floods, from which the earth, by which they were once surrounded, has been washed away, leaving the basalt towering above the adjacent country.

The most remarkable of these table mountains is in Tuolumne county, through which runs the Stanislaus river, and with the same general course.

Its length, with its bends, is about thirty-five miles, its height from three hundred to one thousand feet above the clay and gravel near it, and its width from a quarter to half a mile. The smoothness of its surface, the gradual inclination to the westward, the basaltic nature of the rock, its proximity to a centre of great volcanic activity, and various other circumstances which cannot be stated here in detail, leave no room for doubt that this table mountain is a solidified bed of lava.

Some miners, sinking a shaft at a place where the lava had been carried away, leaving the sandstone or gravel under it bare, found gold, and some other miners, working along the side of the mountain, found a rich streak of pay-dirt, which ran down in a deep rocky channel obliquely under the mountain. They attempted to follow it, but they soon met a body of water, which they could neither avoid nor pump out. This put them on nettles. Further examination showed that there were other little channels running under the mountain and on both sides, and all going deeper as they went further in, and nearly all tending westward, with a course oblique to that of the mountain, and all containing more or less gold.

There must, then, be an ancient river bed under the mountain. This opinion, advanced by a few men without education, who wished to induce wealthy men to undertake the exploration of the mountain by tunnels, was met by incredulity and ridicule. Nevertheless, the projectors of the scheme had got the idea fixed in their minds, and they were determined to see what the mountain was made of. The storekeepers, in accordance with the general custom of assisting in developing the resources of their own neighborhood, willingly trusted them for provisions, tools, and clothes, while they were cutting a tunnel to reach the bed of the supposed ancient river.

They commenced their work at some distance from the basalt, and after cutting through clay and gravel reached a slate rock, which seemed to have been the an-

cient bank, and then they came to a bed of gravel of such character that the theory of the primeval river was fully established. But the tunnel was not deep enough.

It was far above the bed rock, and the water stood, as before, between the miner and the gold. Months of labor had been lost, and it was uncertain whether the next tunnel would strike the right level, nor could it be known whether the bed would be rich enough to pay. Nevertheless, hope and confidence, the chief divinities of the miner, and he is happy in their smiles even when privation is his companion and when experience tells him that no gold fortune is in store, continued to sustain him.

The Table mountain prospectors, however, had reason and experience, as well as hope and confidence, to cheer them, and the second tunnel was undertaken with the encouragement of many men who had sneered at the first. The right elevation had been struck this time, the bottom of the river bed was reached and was drained by the tunnel, and the gravel was found to be extremely rich. Ten feet square of superficial area yielded \$100,000. A pint of gravel not unfrequently contained a pound of gold. The whole mountain was soon claimed.

The State echoed with the discovery. A stream of lava had filled up the bed of an ancient river for thirty miles, and in the course of ages the earth and slate that once formed the banks were washed away, leaving the basalt to mark the position of the golden treasure. Other similar deposits were found elsewhere, and other explorations, as bold in their conception but less successful or less important in their results, were undertaken in nearly every county.

26.—THE FRASER FEVER.

The years 1856 and 1857 were marked by no peculiar excitement or sudden change. The working of the gullies and river bars and beds was gradually becoming less profitable and productive, the quartz and ditch interests continued to grow larger, wages kept their downward tendency, and the number of hired laborers increased.

In 1858 the State received a shock that was felt in every fibre of her political and industrial organization. Rich diggings were found in the spring on a bar of Fraser river, and it was asserted and presumed that there were large tracts of excellent placers in the upper basin of the stream. The presumption was not without its foundation in experience and reason, but after all it was but a presumption.

The miners, however, were not disposed to listen to any doubts; they were ready to sacrifice everything in the hope of finding and being the first to enjoy another virgin gold field like that of California.

In the course of four months, 18,000 men, nearly one-sixth of all the voters in the State went to Fraser river, and many thousands of others were preparing for an early start. The confident belief prevailed that "the good old times" of '49 were to come again.

Servants threw up their positions, farmers and miners left their valuable property, wages rose, houses and land fell in value, and many persons believed that California would soon be left without a tenth part of her population.

All this excitement was made before any gold had been received in San Francisco, and before there was any direct and trustworthy evidence of the existence of paying diggings beyond the limits of a few bars, which could not give occupation to more than a hundred men.

Suddenly, and with no material addition to the evidence, the conviction burst on the people that Fraser river would not pay, and five-sixths of the truant miners had returned before the end of the year.

* 27.—DISCOVERY OF THE COMSTOCK LODE.

A party of emigrants discovered placer diggings on Gold cañon, a little tributary of Carson river, east of the Sierra Nevada, in 1849, and a permanent mining camp was established there in 1852.

It was observed that the gold contained a large proportion of silver, in some claims nearly one-half in value, but this fact was not without precedent in the placers of California, and was regarded simply as a misfortune for the miner, who did not receive more than \$10 or \$12 an ounce for his dust, while that obtained on the western slope of the Sierra usually sold for \$17 or \$18.

The Gold cañon diggings had been worked for seven years, and gave employment to about fifty men, when, in the spring of 1859, the miners, following up a rich streak of placer gold, came upon a quartz lode in the place now known as Gold Hill.

A couple of months later, some miners, in following up a placer lead in which the gold was mixed with about an equal weight of silver, came on the lode from which the metal had been washed down.†

They were working here in a rude way, with no idea of the value of their claim, when James Walsh, an intelligent quartz miner from Grass valley, passed

* The credit of this discovery has been claimed by so many parties, and the testimony is so conflicting, that I am induced to give at least two of the popular versions. Substantially they agree upon the main points. (See section 4, Resources of Nevada.)

† S. H. Marlette, surveyor general of Nevada, in his annual report for 1865, gives the following history of the discovery of the Comstock lode:

"In 1852, H. B. and E. A. Grosh or Grosh, sons of A. B. Grosh, a Universalist clergyman of considerable note, and editor of a Universalist paper at Utica, New York, educated metallurgists, came to the then Territory, and the same or the following year engaged in placer mining in Gold cañon near the site of Silver City, and continued there until 1857, when, so far as I can learn, they first discovered silver ore, which was found in a quartz vein, probably the one now owned by the Kossuth Gold and Silver Mining Company, on which the Grosh brothers had a location.

"Shortly after the discovery, in the same year, one of the brothers accidentally wounded himself with a pick, from the effects of which he soon died, and the other brother went to California, where he died early in 1858, which probably prevented the valuable nature of their discovery from becoming known. In the mean time placer mining was carried on to considerable extent in various localities, principally in Gold cañon.

"In 1857, Joe Kirby and others commenced placer mining in Six Mile cañon, about half a mile below where the Ophir works now are, and worked at intervals with indifferent success until 1859. On the 22d day of February, 1858, the first quartz claim was located in Virginia mining district, on the Virginia croppings, by James Finney, generally known as Old Virginia, from whom the city of Virginia and the cropping have taken their name. This must be considered the first location of the Comstock lode, unless we consider the Kossuth claim as upon one branch of the Comstock, which may not be impossible in case we adopt the one lode system, for the lode is about one hundred feet in thickness, and its strike would take it to the eastern slope of Mount Davidson, as explorations prove, as I have been informed, the Virginia croppings to be the outcrop of the western portion of the Comstock.

"The discovery of rich deposits of silver ore was not made until June, 1859, when Peter O'Reilly and Patrick McLaughlin, while engaged in gold washing on what is now the ground of the Ophir Mining Company, and near the south line of the Mexican Company's claim, uncovered a rich vein of sulphuret of silver in an excavation made for the purpose of collecting water to use in their rockers in washing for gold. This discovery being on ground claimed at the time by Kirby and others, Comstock was employed to purchase their claim, whereby Comstock's name has been given to this great lode, by which those entitled to the credit of its discovery have been defrauded—a transaction, to compare small things with great, as discreditable as that by which Americus Vespucius bestowed his name upon the western continent, an honor due alone to the great Columbus.

"From this discovery resulted the marvellous growth of Nevada. Immediately the lode was claimed for miles; an unparalleled excitement followed, and miners and capitalists came in great numbers to reap a share of the reported wealth. The few hardy prospectors exploring the mountains for hidden wealth soon counted their neighbors by thousands; soon walked along miles of busy streets, called into existence by the throng of adventurers, and soon the prospectors were ransacking almost every part of the (at present) State of Nevada in search of silver lodes."

their place and examined their mine. His attention was attracted by the dark gray stone which he suspected was silver ore, and as an assay of it he sent a ton and a half of it to San Francisco, where it was sold for \$3,000 per ton. He and some friends then bought out four of the five partners, paying \$22,000 for four-fifths of 1,800 feet, or at the rate of \$14 per foot.

Some shafts sunk on the vein showed that the gray stone, a rich sulphuret of silver, could be obtained in large quantities. The lode was soon claimed as far as it could be traced, and the market value of the shares rose so rapidly that before the end of the year \$1,000 a foot had been offered for a portion of the lode.

28.—THE WASHOE EXCITEMENT.

The excitement about the silver mines spread throughout California in the spring of 1860, and thousands of miners crossed the mountains to work in the newly-discovered mines or to seek for others.

In every town companies were formed to equip and send out prospectors, and the work was continued on a large scale for three years. Thousands of square miles, never before visited by white men, were explored and examined, and many thousands of metalliferous lodes were found and claimed.

It was in 1860 that the silver districts of Esmeralda, Bodie, Potosi, Coso, and Humboldt were discovered, besides many others of less note. The chief silver mining town grew up at the Comstock lode, and was soon the home of a large and excited population. Every man owned thousands of feet of argentiferous lodes, and considered himself either possessed of a fortune or certain of soon acquiring one.

The confidence in the almost boundless wealth of the country was universal, but many were bothered to convert their ore into ready cash. Men who considered themselves millionaires had sometimes not enough money to pay for a dinner, and in their dress they looked like beggars.*

* The following extract from a letter written at Virginia, in April, 1860, gives a vivid picture of the condition of society there at that time :

"Of a certainty, right here, is Bedlam broke loose. One cannot help thinking, as he passes through the streets, that all the insane geologists extant have been corraled at this place. Most vehement is the excitement. I have never seen men act thus elsewhere. Not even in the earlier stages of the California gold movement were they so delirious about the business of metalliferous discovery. Hundreds and thousands are now here, who, feeling that they may never have another chance to make a speedy fortune, are resolved this shall not pass unimproved. They act with all the concentrated energy of those having the issues of life and death before them. They demean themselves not like rational beings any more. Even the common modes of salutation are changed. Men, on meeting, do not inquire after each other's health, but after their claims. They do not remark about the weather, bad as it is, but about out-croppings, assays, sulphurets, &c. They do not extend their hands in token of friendship on approaching, but pluck from their well filled pockets a bit of rock, and, presenting it, mutually inquire what they think of its looks. During the day they stand apart, talking in couples, pointing mysteriously hither and yon: and during the night mutter in their sleep of claims and dips and strikes, showing that their broken thoughts are still occupied with the all-absorbing subject. I shall be able to convey to your readers some idea of the intensity of this mining mania, when I assure them that this portion of the American people do not even ask after newspapers, nor engage in the discussion of politics. Little care they whom you choose President; conventions and elections, wars and rumors of wars, are nothing to them. They have their own world here. Here, bounded by the Sierra and the mountains of Utah, spread over the foot-hills and the deserts, is a theatre beyond which their thoughts are not permitted to roam; to this their aspirations and aims are all confined. Whatever of energy, ambition, and desire are elsewhere expended on love, war, politics, and religion, are here all devoted to this single pursuit of finding, buying, selling, and trading in mines of silver and gold. Everybody makes haste to be rich; and so great is the mental tension in this direction, that it may well be questioned whether, if a sweeping disappointment should overtake them, many will not be reduced to a condition of absolute lunacy. What guarantee this wildly-excited multitude have against the happening of this fearful contingency, I am not fully prepared to say, having, as yet, not been able

29.—THE BARREL AND YARD PROCESSES.

There was much difficulty in extracting the metal even from the richest ore. There were no mills to crush the rock, no skilful metallurgists to reduce the ore, and no confident opinion in regard to the best means of extraction. The simple processes used for reducing auriferous quartz would not suffice. The gold exists in the metallic form, and so soon as the rock is pulverized can be obtained by washing or amalgamation. But silver is in chemical combination with baser substances, and must be separated from them by chemical influences before the metal will submit to unite with quicksilver, by which it must usually be caught.

All the silver produced in civilized countries was obtained by two processes, the Frieberg German barrel, and the Mexican yard or patio. In the German process three hundred pounds of the ore, finely pulverized, are mixed with water to the thickness of cream, and after the addition of some salt, iron pyrites, scraps of iron, and quicksilver are put into a strong barrel, and kept revolving rapidly for fourteen hours, at the end of which time the silver and quicksilver have united, and they can easily be separated from the mud by washing. The barrels are rapidly worn out, the amount of work done is little, and the labor required is much. In the Mexican process the pulverized ore is mixed with water, salt, iron pyrites, and quicksilver, and left out in an open yard for three weeks, the mass being stirred or trodden with mules occasionally. This mode of reducing is very slow, and is unsuited to the cool climate of Nevada, in latitude 38°, and at an elevation of 5,000 or 6,000 feet above the sea.

30.—THE PAN PROCESS.

There was a general belief that some mode of amalgamation better than either of these could and would be devised, so while one set of men were engaged in hunting and opening mines, another set were busy in studying a mode for reducing the ores. A satisfactory result was not reached for several years, but it came at last in the invention of the pan process, as distinguished from the barrel and yard processes.

The pan is of cast-iron, about five feet in diameter and eighteen inches deep.

Five hundred or a thousand pounds of ore are put in with salt, iron pyrites, quicksilver, and enough water to make a thin mud. A muller revolves on the bottom of the pan, and serves to grind the matter, which is not fine enough, and also brings all the particles of the ore into contact with the chemicals and the quicksilver. Besides the motion of the muller, various devices are used to keep up a regular current, so that all portions of the mixture are successively brought to the bottom, and exposed to the action of the quicksilver. In some pans heat is applied. The American process extracts silver from the common sulphuret ore as thoroughly as any other process, with much more rapidity, and with less expense. It is, therefore, in almost universal use in the American silver mines of the Pacific slope, and has been introduced into Mexico, where it will probably in time supersede the yard process. While the metallurgists were working away at their pans, the miners generally were afraid to erect mills lest buildings and machinery might be unsuited to the new modes of working.

The mills that were built charged \$50 and \$60 per ton for crushing and

to give the subject much examination since my return. To attempt eliciting information from those now here, only tends to confuse and complicate what is already incomprehensible. If you talk with one man, he is only concerned lest the argentiferous metal be rendered worthless by the superabundance here met with; while another, with equal opportunities, and perhaps better ability for forming a correct judgment, derides the idea of there being any silver apart from the Comstock vein, telling you that the whole thing is an inverted pyramid, having that truly wonderful lead for a base."

amalgamating, though the same work was done at Grass Valley, only one hundred miles distant, for less than \$5 a ton.

The amalgamation was so conducted that only the free gold was saved. All the silver and much of the gold were lost. Ore that contained \$500 to the ton was sent to the mill if it yielded \$70 or \$80, leaving about \$10 profit, and a loss of \$400 of silver.

The value of the ore and the amount of silver lost were precisely understood, but there was no remedy. It was necessary to take some silver from the mines at any sacrifice to keep up the confidence of the shareholders. Although the ore in sight was worth millions, the bullion sent across the mountains from Nevada amounted to only \$90,897 in 1860.

The next year, however, the export rose to \$2,275,256; in 1862 to \$6,247,074, and in 1863 to \$12,486,238. This increased rate might well astonish the world, and dazzle people in the vicinity.

31.—GROWTH OF THE WASHOE EXCITEMENT.

The silver excitement which pervaded California in the spring of 1860 continued to increase steadily for three years.

Washoe, by which name the mining region near the Comstock lode was generally known, was the main topic of conversation, and the main basis of speculation. Everybody owned shares in some silver mine. High prices were paid to strangers for mines at places of which the purchaser had never heard until a day or two before the purchase. Men seemed to have discarded all the dictates of prudence. Their judgment was overwhelmed by the suddenly acquired wealth of a few and by the general anxiety of the many to buy any kind of silver shares. People acted as though there were so many rich silver mines that men who had been searching for them would not be so mean as to offer a poor one for sale. Three thousand silver mining companies were incorporated in San Francisco, and 30,000 persons purchased stock in them. The nominal capital was \$1,000,000,000, but their actual market value never exceeded \$60,000,000, and not one in fifty owned a claim of the least value. And yet the organization of each company cost \$100 on an average, and that money had to be paid by somebody. Although the mines were in western Utah, which was organized afterwards into the Territory and then into the State of Nevada, the shares were mostly owned in San Francisco, and that place was the centre of speculation and excitement, of profit and loss. On every side were to be seen men who had made independent fortunes in stocks within a few months.

The share in the leading mines on the Comstock lode were the preferred security for loans by money lenders and banks.

The shares, or feet, as they were more commonly called, (for in most of the companies a share represented a lineal foot lengthwise on the vein,) of the Comstock claims advanced with great rapidity, in some cases as much as \$1,000 per month.

A foot of the Gould and Curry mine, worth \$500 on the 1st of March, 1862, was sold for \$1,000 in June; for \$1,550 in August; for \$2,500 in September; for \$3,200 in February, 1863; for \$3,700 in May; for \$4,400 in June, and for \$5,600 in July. Other claims advanced with a rapidity less rapid but scarcely less startling. In the middle of 1863, Savage was worth \$3,600 per foot; Central \$2,850; Ophir \$2,550; Hale and Norcross \$1,850; California \$1,500; Yellow Jacket \$1,150; Crown Point \$750; Chollar \$900, and Potosi \$600.

32.—VIRGINIA CITY.

Virginia City, the centre of the mining industry, rose to be the second town west of the Rocky mountains. It had a population of 15,000, and the assessed value of its taxable property was \$11,000,000. The amount of business done

was twice as great as in any other town of equal size in the United States. And well might the town be large and busy. It produced more silver within a year than any other one mining district of equal size ever did. Neither Potosi nor Guanajuato could equal it. The former town yielded \$10,000,000 annually for a time, but with that yield supported a population of 160,000. Indeed, it may be doubted whether any town of 15,000 persons ever before produced an average of \$12,000,000 annually, or an average of \$800 to the person. Well might excitement run high, and money be flush.

33.—THE SILVER PANIC.

But though the silver yield kept up, distrust set in, and prices of stocks commenced to fall in the summer of 1863. The people began to count up how many millions they had paid as assessments on claims that had been worked for years and had never yielded a cent. Experts from other silver mining countries said that no rich and permanent deposits of silver had been opened, save on the Comstock lode, and that the management of the mines there was grossly wasteful.*

It was a notorious fact that many companies had been organized for the purpose of swindling the ignorant by selling worthless stock to them.

Prices declined slowly until the middle of the next year, and then they were attacked by a panic which smote hundreds of the Washoe speculators with terror and bankruptcy. Gould & Curry fell from \$5,600 to \$900 per foot; Savage, from \$2,600 to \$750; Ophir, from \$2,550 to \$425; California, from \$1,500 to \$21; Hale & Norcross, from \$1,850 to \$310, and others in like proportion.

The wild-cat or baseless speculations were swept away to destruction by the thousand, and never heard of more.

The dray-men, the hod-carriers, the mechanics, the clerks, the seamstresses, the servant girls, who had cheerfully paid assessments for years, in the confidence that they would soon have a handsome income from their silver mines, were disenchanted.

The name of Washoe, which had once been blessed, was now accursed by the multitude, though still a source of profit to a few.

People wondered how they could have been so blind. It was found on examination that the most deliberate and most dishonest deception had been systematically practiced in many cases. Most of the mines had been managed not with the object of taking silver from the ore, but for the purpose of making a profit by the sale and purchase of stocks.

The officers, or some of them, combined to raise or depress the shares as suited their schemes. It was an easy matter to instruct the miners to take out the richest or the poorest of the ore, and the returns of the mill could be published as a fair indication of the value of all the ore within sight.*

In the erection of buildings the financial management of the companies was grossly extravagant. Money was thrown about almost as if it had no value. It was presumed that the rich and extensive deposits found near the surface, instead of being exhausted, would become still richer as the works advanced in depth. The ignorance of metallurgy and lack of experience in silver mining led to many costly mistakes.

Wages much higher than those of California were paid.

* We find the following paragraph in the report of S. H. Marlette, the surveyor general of Nevada, for 1865:

“When a bulling operation was in progress the superintendent would write glowing letters; rich rock, selected from a large mass of poorer material, would be sent to mill; debts would be incurred to be paid in the future, and large dividends would be declared.

“If a ‘bearing’ operation was in contemplation, the rich deposits would be avoided; the rock sent to mill would prove to be very poor; assessments would be levied to pay off the debts of the company; suits would be commenced against it, and every device that could discourage stockholders would be adopted.”

34.—LITIGATION ABOUT THE COMSTOCK MINES.

The overestimate of the value of the mines was one of the causes of a great litigation, for which opportunities were given by the careless manner in which claims were located, recorded, and transferred in early times. The lawyers charged fees high almost beyond example. Witnesses who found that their testimony was necessary in important suits suddenly had business in the eastern States, or in some other remote place, and could not be persuaded to remain till the trial unless some large sums of money were paid to them.

Subornation of perjury became a profession in which many engaged. So much money was spent in a law suit that it materially affected business.

When the trial of the suit between the Ophir and the Burning Moscow was transferred from Virginia City to Aurora, property in certain parts of the latter town rose fifty per cent., so confident were the residents there that the attendants at the court would be numerous and flush of money. In several cases more money was spent in litigation than the entire mine is now worth. The surveyor general of the State, in his report for the year 1865, says:

"I have understood that \$1,300,000 have been expended in litigation between the Chollar and Potosi companies, and \$1,000,000 more have been expended in the Ophir-Moscow trials. * * * I believe one-fifth of the proceeds of the Comstock would not more than pay the expenses of litigating the title thereto."

The yield of the Comstock lode, up to the date of that report, had been about \$45,000,000; so Mr. Marlette's estimate of the amount spent in litigation would be \$9,000,000, and four-fifths of this was expended within a period of three years.

The sum paid as dividends to stockholders in many permanent mines was less than that expended in litigation.

35.—THE MANY-LODE THEORY.

One of the main sources of the lawsuits was the doubt whether the Comstock lode had at its side a number of branches, or whether it was one of a series of independent and parallel lodes within a distance of two hundred yards. At the surface several seams of ore were perceptible, and the first claimants had taken the seam which was largest and lowest on the hill, and they asserted that the seams above were mere branches. This assertion, however, did not prevent others from claiming the upper seams, and thus arose the suits between the Ophir and the Burning Moscow, that between the Gould & Curry and the North Potosi, and that between the Potosi and the Bajazet, which were all cases of much importance in their day. The people were divided between the one-lode and the many-lode parties, and elections turned more than once on that question. Most of the stock of the one-lode companies was held in San Francisco, while a larger proportion of the stockholders of the many-lode companies were residents of Virginia City, so it was argued that it was the interest of Nevada that the old companies should be defeated. But the latter had the evidence of geology, and what was, perhaps, still more important, the money on their side, and the many-lode theory was at last completely overthrown, but not until after a struggle that cost years of time and millions of money. The Comstock vein has a dip of 45° to the horizon, and while it was in the process of formation large bodies of porphyry split off from the hanging wall, fell down into the vein stone and were there suspended, leaving a seam of quartz above as well as one below. These pieces of hanging wall are usually long, narrow, and deep, but not large enough in any direction to make two lodes out of one.

36.—EXPENSES INCREASING WITH THE DEPTH.

Another source of disappointment to the mining companies was that as the works advanced in depth expenses increased in an unexpected manner. The immense excavations for the extraction of ore required vast quantities of timber; as the forests are distant and transportation dear, the mines now pay three-quarters of a million dollars annually for timbering alone.

The water increased and powerful engines, consuming much wood, were required to pump constantly at an expense of \$100 per day to each of half a dozen companies. Foul air made it impossible for the miners to work rapidly in the deep drifts, and ventilation was expensive. These, and a multitude of other considerations, contributed to the panic and kept the general stock market down.

But such influences could not entirely govern the price of particular stocks.

Gould & Curry, which was sold for \$900 per foot in July, 1864, advanced to \$2,000 in April, 1865, and fell to \$600 in October, 1866. Savage was \$2,000 in April, 1865, and \$1,100 in October, 1866. Of stocks, which were not noticed in the stock boards in the summer of 1864, Yellow Jacket rose in April, 1865, to \$2,590 per foot, and was sold in October, 1866, for \$700; Belcher, worth \$1,650 in April, 1865, was offered for \$95 in October, 1866. Alpha, worth \$2,100 in April, 1865, was worth only \$50 in October, 1866, and Crown Point fell from \$1,225 in April, 1865, to \$900 in October, 1866. A fall of fifty per cent. or a rise of two hundred per cent. in the market value of a large mine within the space of six months has occurred in more than two score cases within the last five years, and it is easily understood that in such events fortunes are made and lost with great rapidity.

37.—SOME CHARACTERISTICS OF ESMERALDA, HUMBOLDT, AND REESE RIVERS.

The stocks in all the other districts of Nevada were affected, and, it might almost be said, governed by the influence of those of Virginia City. While shares in the Comstock lode were high, so were those in mines elsewhere. At Esmeralda large masses of rich ore were found in the Wide West and Real Del Monte mines, and the price of their stocks rose to \$400 per foot; but there, too, litigation, bad management, and the speedy exhaustion of the rich deposits near the surface were followed by a general collapse.

Esmeralda district, which yielded \$500,000 annually for a couple of years, seemed to have been worked out, and all the explorations undertaken since 1864 have failed to show anything to compare with the ore opened in 1861 and 1862.

Several other districts in the vicinity, however, were found, and these promised to more than surpass Esmeralda in its best days. Humboldt had a history somewhat like Esmeralda.

A large body of rich ore in the Sheba mines brought the price of that stock up to \$400 per foot, but they contained antimony, and could not be reduced without roasting, and the expenses of reduction, and litigation and the exhaustion of the rich body of ore, soon left the company insolvent; and since then the Humboldt district has been under a cloud, although many of the veins will undoubtedly prove profitable in time.

The Reese River mines, discovered in June, 1862, include a number of districts, in which a great variety of veins and ores are found. The development has been slow, yet it is the opinion of intelligent men who have examined the lodes that several of them will take a high place in the production of silver after a few years.

The last of the silver districts of Nevada in the order of discovery is Pahrnatagat, in the southeastern corner of the State, which first attracted attention in the beginning of 1866. No bullion has yet been extracted there, but some fine ore has been found, and the quantity appears to be considerable.

38.—SUTRO TUNNEL PROJECT.

In 1865 it became evident that if the mining in the Comstock mines were to be continued for many years, it would be profitable, and even necessary, to have

a tunnel to drain the vein to a depth of 2,000 feet. Of the continuation of the mining there could be no reason to doubt.

The lode has the main geological characteristics which mark the greatest silver-bearing veins of Spanish America. It is a fissure vein that extends across several different formations, and at the richest place it separates two different kinds of "country" rock. It is of great length and great width. The general thickness and dip remain about the same, so far as they have been examined. The walls are distinctly marked. The inclination is about 45° to the horizon. There are large seams of clay-like substances along the sides, as though the sides had rubbed and ground part of the vein-stone to powder. Bodies of porphyry, many of them large and others small, are found in the vein-stone, looking as though they had cracked off the upper or hanging wall and fallen down.

The vein-stone, so far as traced, is about the same in all places, though the color varies from white and gray to brown. The ore is distributed irregularly, being found in some places in large masses and in others in thin seams. The general features of the lode are like those other great argentiferous veins, and mining geologists say that the class are inexhaustibly rich in silver. It is presumed that they are rich in ore far beyond any depth which miners can reach.*

* 39.—BARON RICHTHOFEN'S REPORT.

The following is a quotation from "The Comstock Lode, its character and the probable mode of its continuance in depth. By Ferdinand Baron Richthofen, Dr. Phil., San Francisco, 1866:"

"If we proceed to compare the Comstock vein with those best explored, it is evident that it differs in nature from a certain class of narrow veins, which, as those of Freiberg, Konigsberg, and Chañarcillo, in Chili, Pasco, in Peru, Catorce, in Mexico, and Austin, in Nevada, fill a number of small fissures, which are either parallel or intersect each other, and which exhibit in depth nearly the same character and richness as near the surface. It presents, on the contrary, all the characters of a second class of silver veins, which are prominent on account of their magnitude and unity, and exhibit, wherever they occur, one great mother vein, or "*veta madre*," surrounded, in most instances, by some smaller veins of little or no importance. To this class belong the veins of Schemnitz and Felsobanya, in Hungary, the Veta Madre, of Guanajuato, and the Veta Grandre, of Zacatecas, while the veins of Potosi, in Peru, and the Biscayna of Real del Monte, in Mexico, have to be referred more to this than to the former class. Notwithstanding their small number, these great mother veins furnish by far the greater portion of the silver produced throughout the world. They resemble each other in many points. All of them fill fissures of extraordinary width and length, and appear to be of very recent origin, and also to be intimately related to volcanic rocks, by which they are accompanied. Although the laws which govern the distribution of ore differ more or less for each vein, yet all of them have been found to be highly metalliferous to whatever depth explored; and it appears that nearly an equal quantity of silver is with most of them contained in each level, the vein of Guanajuato being an exception to this rule. It may be inferred that this will continue to be the case to an indefinite depth. There is, however, a marked difference in the concentration of silver, ores of extreme richness being usually accumulated in limited bodies in the upper levels, while in depth similar bodies recur greater in extent, but consisting of lower grades of ores. This is one of the principal reasons why, on all the veins mentioned, mining in upper levels has been so highly remunerative compared with the profits derived from deep working. Each ton of ore costs there but little to extract, and yields a large amount of metal, while raising the same weight from greater depth is more expensive and at the same time a smaller amount of bullion is realized. The history of the Mexican mines is the best illustration of these relations. In former centuries counts and marquises have been made by the king of Spain whenever fortune enabled a single individual to accumulate enormous wealth in a few years. Mining then was confined to rich ores within a few hundred feet from the surface. In the present century, since greater depths have been reached, the Spanish crown, if it had still the sceptre of Mexico, would scarcely have found an opportunity of bestowing equal honors on fortunate mining adventurers, notwithstanding the unabated enterprising spirit of the population and the increased facilities of raising the treasures. And yet the production of the Mexican mines has anything but decreased. It appears, on the contrary, that it has never been so high as at the present time. Humboldt states that vastly the majority of the annual production of Mexico has through all times been derived from the mother veins alluded to above, and still at this day they furnish at least three-fourths of it, though each of them has repeatedly been abandoned as unprofitable. They would be inexhaustible sources of wealth if the increase of expenses attending the growing depth did not put a limit to all profitable mining.

"The equality of produce of the Mexican mines is probably partly due to the prevalence of true silver ores through all levels. The Hungarian offer less favorable conditions, as the

The water which gathers in mines at Virginia City, although the deepest there is not half so deep as many in Mexico, is very great, and a tunnel or adit-level is necessary to secure drainage and ventilation and procure a cheap mode of extracting the ore and of exploring the lode. Fortunately the lode is situated on a mountain side, and there is an opportunity of draining the lode to a depth of two thousand feet by cutting an adit three and three-fifths miles. The expense will be several millions of dollars, but the saving will be far more. Considerations like these led to the formation of the Sutro Tunnel Company, which received a franchise from the legislature of the State and a grant of land from

ores, on account of the previously mentioned increase of lead and copper in depth, undergo a real deterioration. Yet they have evidently had at upper levels their concentrated bodies of rich ore. Such have been extracted at Schemnitz within the time of historical record, while their former existence at Felsobanya may be inferred from the shape and character of the old Roman works near the out-croppings.

"Let us now return to the Comstock vein, the '*veta madre*' of Washoe, and examine what conclusions as to its future we are justified in drawing from the present conditions of the explorations. In the first place, we have mentioned the fact that the ores through all the levels explored retain their character of true silver ores which they had near the surface. The amount of lead, copper, iron, and zinc has never been large in the Comstock ores, and these metals preserve now, at the lowest level, nearly the same relative proportion as formerly. Their increase, especially of lead, would be the most unfavorable indication for the future of the Comstock lode, as, besides the growing difficulty of metallurgical treatment, the conclusion would be justified that lead ores would more and more replace those of silver, and the limits of profitable productiveness would soon be reached. But as it is, no deterioration is to be expected, even if an impoverishment takes place. It thus approaches in its ore-bearing character the great mother-veins of Mexico, and is different from those of Hungary. But even the reasons for an impoverishment are by no means so evident as might appear at first sight. There have been, it is true, bonanzas near the surface, which surpassed in richness all those worked upon in later times. As such may be mentioned the bonanzas of the Ophir, the Gould & Curry, and the western body of ore in Gold Hill. Their richness and the facilities of their extraction co-operated in making the latter exceedingly profitable. Yet the production of the Comstock vein did, at the time when it was solely derived from these surface-bonanzas, not reach the figure it attained after the exhaustion of their principal portion. One of the reasons is that then the ore was concentrated within narrow limits, while as the greater depth was attained the distribution of the ores was much more general, though their standard was lower. New bodies of ore had been discovered, commencing at a depth of from one hundred and fifty to three hundred feet below the surface, such as the continuous sheets of ore in the eastern part of the lode in the Gold Hill mines and the Yellow Jacket, and the similar-constituted one in Chollar Potosi. None of them contain, excepting a few narrow streaks or bunches, ores of equal richness with those of which the surface-bonanzas were composed. But their extent so far exceeds that of the latter as to make up, by the increased amount of daily extraction, for the inferior yield. The profits of working are of course greatly diminished. These bodies of ore have continued to the deepest levels reached in the Comstock mines, varying in width and extent, and also in their yield. The latter did not increase, but in some instances, as in the southern part of Gold Hill, decreased with the growing width of the deposit, while in others no material change is perceptible.

"Few new bodies of ore made their appearance below the level of three hundred feet. Foremost in importance among them are two bodies discovered at seven hundred feet below the surface of the Hale & Norcross' works, one of which is on ground supposed heretofore to be unproductive.

"Considering these facts exhibited by the Comstock vein itself, and comparing with them what is known about similar argentiferous veins, we believe to be justified in drawing the following conclusions:

"1st. That the continuity of the ore-bearing character of the Comstock lode in depth must, notwithstanding local interruptions, be assumed as a fact of equal certainty with the continuity of the vein itself.

"2d. That it may positively be assumed that the ores in the Comstock lode will retain their character of true silver ores to indefinite depth.

"3d. That it is highly probable that extensive bodies of ores, equal in richness to the surface-bonanzas, will never occur in depth.

"4th. That an increase in size of the bodies of ore in depth is more probable than a decrease, and that they are more likely to increase than to remain of the same size as heretofore.

"5th. That a considerable portion of the ore will, as to its yield, not materially differ at any depth from what it is at the present lower levels, while, besides, there will be an increasing bulk of lower grade ores. We are led to this supposition by the similarity in character of all the deposits outside of the rich surface-bonanzas and the homogeneous nature which almost every one of them exhibits throughout its entire extent.

Congress, and met with the encouragement of the great companies mining on the lode, all of which signed contracts with the company binding themselves to pay a certain sum for every ton taken from their mines after the completion of the tunnel. Although the work has not been commenced, the project has fair prospects, and it occupies an important place in the history of mining in Nevada. The miners at Virginia City will never be content to abandon that plan of drainage.

40.—COLUMBIA BASIN AND CARIBOO MINES.

The first mines in what is now Idaho Territory were found in the bars of Clearwater river in the spring of 1860, and those of the Salmon river were opened in a few months later. The placers of Boisé were struck in 1862, those of Owyhee in 1863, and the quartz veins of Owyhee and Alturas began to attract attention in 1864. In eastern Oregon the placers of Powder and Burnt rivers were discovered in 1861, and those of John Day's river in the following year.

None of the Idaho or Oregon placers have proved so rich, so extensive, or so durable as those of California, although they have yielded considerable amounts of gold. The deep diggings of Cariboo, 500 miles from Victoria, in the upper part of Fraser valley, were discovered in 1859, and the placers in the shallow bars and creeks at the Big Bend of the Columbia, in the territory of British Columbia, in 1865. California had to send miners to all these places.

The number who went to Idaho was, probably, 20,000; and in 1866 at least 5,000 migrated to Montana.

It was also in this year that a rumor became current that rich placers had been discovered at Barbacoas, in New Granada, and the result was the migration and bitter disappointment of about a thousand men, who found nothing to reward their trouble.

"6th. That the ore will shift at different levels, from certain portions of the lode to others, as it has done up to the present time. More equality in its distribution may, however, be expected below the junction of the branches radiating toward the surface, when the vein will probably fill a more uniform and more regular channel. Some mines which have been heretofore almost unproductive, as the Central, California, Bullion, and others, have therefore good chances of becoming metalliferous in depth. But throughout the extent of the vein, it is most likely that the portion which lies next to the foot wall will continue unproductive, as it did from the surface down to the lowest works, while the entire portion between it and the hanging wall must be considered as the probable future source of ore. As remarked in the foregoing pages, it is also probable that repeatedly, in following the lode downward, branches will be found rising from its main body vertically into the hanging wall and consisting of clay or quartz. Many of them will probably be ore-bearing. Such bodies of ore should be sought for, at all the mines, in what is generally supposed to be the eastern country. Experience in upper levels would lead to the supposition that such eastern bodies might carry richer ores than the average of the main portion of the vein.

"7th. That the intervention of a barren zone, as is reported by good authorities to occur at the Veta Madre of Guanajuato at the depth of twelve hundred feet, is not at all likely to be met with in the case of the Comstock lode. The argument which we have to adduce for this conclusion has some weight from a geological point of view. It is a well known fact that the enclosing rocks have usually great influence on the quantity and quality of the ores of certain metals in mineral veins, and that a rich lode passing into a different formation frequently becomes barren or poor. At the Veta Madre of Guanajuato a sudden decrease in the yield of the ore at the depth of twelve hundred feet attends the passage of the lode into a different formation, which from thence continues to the lowest depth attained. No such change can be anticipated for the Comstock lode, since the structure of the country seems to indicate the continuity of the enclosing rocks to an indefinite depth.

"In winding up these considerations, we come to the positive conclusion that the amount of nearly fifty million dollars, which have been extracted from the Comstock lode, is but a small proportion of the amount of silver waiting future extraction in the virgin portions of the vein, from the lowest level explored down to indefinite depth; but that, from analogy with other argentiferous veins, as well as from facts observed on the Comstock lode, the diffusion of the silver through extensive deposits of middle and low grade ores is far more probable than its accumulation in bodies of rich ore."

SECTION 2.

GEOLOGICAL FORMATION, ETC., OF PACIFIC SLOPE.

REPORT OF MR. WILLIAM ASHBURNER, MINING ENGINEER, MEMBER OF THE STATE GEOLOGICAL SURVEY OF CALIFORNIA, &c.

1. Gold mining interest of California.—2. Characteristics of the gold-belt.—3. Northern mining districts.—4. Mining in the Sierras: mills, expenses, &c.

1.—GOLD MINING INTEREST OF CALIFORNIA.

SAN FRANCISCO, *November* —, 1866.

In accordance with the request you made me some time since, I beg leave to submit the following report upon the present condition of the gold mining interest of California, so far as it can be ascertained. The absence of all published documents of a reliable nature, with the exception of those recently issued by the geological survey of the State, make it a matter of considerable difficulty to arrive at results which shall have the merit of being perfectly trustworthy, and the only means of obtaining them is by personal examination by competent individuals of the various gold fields throughout the State. Everybody will acknowledge that accurate statistics of the results obtained throughout the extensive mineral regions of the United States, particularly those where the precious metals are found, and published under the official sanction of the government, would be of the greatest value. If properly compiled they in themselves alone would go far to remove the great ignorance which prevails in the public mind with regard to many important facts bearing upon the question of mining, and enable people to judge for themselves how far the great majority of those wild assertions which are so frequently made by amateur visitors and newspaper correspondents are likely to be true. It is from this class of writers—who, from their education, are not qualified to weigh and appreciate the value of statements made to them, generally by interested and enthusiastic persons—that nearly all the information which the public now possesses of the gold and silver mines of this country is derived.

It is universally conceded that the great objection to mining is its uncertainty, and that, while in some cases the profits are large, the risks are more than proportionably great, and the cautious capitalist hesitates before embarking upon a mining enterprise, feeling that a shroud of mystery envelops the whole question, and that he may be placing himself blindfolded in the hands of evil and designing persons.

The mineral resources of many of the States have been under scientific investigation since 1830; but it was in 1844 that the first district for mining other minerals than coal and iron was opened up upon the shores of Lake Superior. Then followed a wild excitement in mines, which seems to have continued periodically since that time, upon the discovery of new and valuable mines. In 1863-'64 attention was particularly directed to the silver and gold mines of Nevada and Colorado. No statements seemed too gross to be made, or too improbable to be believed. Tracts in the midst of the desert covered with sage brush, and miles distant from any mineral-bearing vein, were located, companies formed, prospectuses issued, and considerable sums of money actually expended in search of mines which by no possibility could exist in such places.

A thorough survey of the various mining districts, which are now attracting so much attention both at home and abroad would confer incalculable benefit upon the country at large, and every means should be employed to bring before the public information of such a reliable nature that the capitalist may be guided in his investments, and the field of the prospector for new mines be restricted to

those comparatively limited districts where there is any chance of their efforts being successful. Money and time uselessly expended in running, prospecting, tunnels, or in sinking shafts that can never be turned to any account, is so much loss of capital and labor taken from the productive industry of the country at large. It was estimated that in 1862-'63 there were some 30,000 persons in this State and on its immediate borders engaged in prospecting for gold, silver, and copper; and it is a notorious fact that not even one per cent. of the claims discovered by those persons have ever proved remunerative to those who invested money in their development. In 1861-'62 the excitement ran high on copper induced by the discovery of the Union mine in Calaveras county, and in a few months the Sierra Nevada, from the foot-hills to their summits, were covered with miners fruitlessly occupied in attempting to discover new deposits which could be worked with a profit. A few months of scientific labor turned in this direction would have shown how utterly futile the efforts of most of them would prove, and how exceedingly limited in width is the copper-bearing belt of California.

The existence of gold in California was known long before the date commonly ascribed for its discovery. In several places along the coast ranges of mountains between Santa Cruz and Los Angeles there were small, inconsiderable "diggings" which were worked by the Mexicans, and some of them are said to have yielded as much as \$6,000 per annum, which, at that period, was a considerable sum. The interest which is attached to these now is chiefly historical, and they were generally abandoned as soon as the more extensive deposits which lie in the Sierra Nevada were made known.

It was on the 19th of January, 1848,* that the first gold east of the coast ranges was discovered on the South Fork of the American river, at a place now called Coloma. It was the result of accident, and although attempts were made to preserve the fact a secret, the news soon spread far and wide, and by July of that year it is stated that the number of persons employed on the American river and its branches were as many as four thousand, who were obtaining from \$30,000 to \$40,000 a day, and by November it is thought that from four to five millions of dollars had been already extracted. It was not until a year subsequent to this discovery, or in the spring of 1849, that commenced the most extensive immigration that the world has ever seen. Adventurers poured into California from all quarters of the globe: first from Mexico, Chili, and Peru; then from the Sandwich Islands, China, and New Holland; lastly from the United States and Europe. During the six months between the first of July, 1849, and the first of January, 1850, it is estimated that 90,000 persons arrived in California from the east by sea or across the plains, and that one-fifth of them perished by disease during the six months following their arrival, such were the hardships they had endured and the privations to which they were subjected.

The western slope of the Sierra Nevada was soon covered with explorers, who, with their "pans" upon their shoulders, penetrated every ravine or gulch, "prospecting" the sands and washing the gravel wherever there was chance of finding the precious metal. Mining towns sprang up with almost incredible rapidity, and for several years they presented a scene of busy life. But the shallow "diggings" soon became exhausted, and in 1851 the yield of gold was higher than it has ever been since, amounting to at least \$65,000,000. During the last four years California has produced an average of about \$30,000,000 per annum of gold from the mines situated within her borders. At least ninety per cent. of the total production reaches San Francisco by public conveyance, and by some it is considered that even a larger proportion is transported in this manner. In order to arrive at the present production, and compare it with what has been produced in former years, we must take the amount of uncoined bul-

* History of California by Franklin Tuthill. p. 226.

lion which is known to have arrived here from the various mining districts, and add say ten per cent. for that brought by private hands. At the same time that this means is far from affording all the accuracy desired, it will give a closer approximation to the truth than any other.

Referring to the San Francisco Mercantile Gazette, which obtains and publishes regularly the amount of coin and bullion received in San Francisco from all sources, we find that the receipts of uncoined treasure from the interior, inclusive of that from Nevada, have been as follows during the last four years :

Production of gold from California during the last four years.

	1862.	1863.	1864.	1865.
From the northern mines	\$30,948,369	\$33,936,771	\$34,782,312	\$36,649,337
From the southern mines	6,601,509	5,610,094	5,347,778	5,108,413
Total bullion receipts.....	37,549,878	39,546,865	40,130,090	41,757,750
Deduct bullion from Nevada.....	6,000,000	12,433,915	15,900,000	15,800,000
	31,549,878	27,112,950	24,230,090	25,957,750
Add 10 per cent. for arrivals in private hands	3,154,988	2,711,295	2,423,009	2,595,775
	34,704,866	29,824,245	26,653,099	28,553,525

Probable production for 1866, based upon the receipts of the first nine months of the present year.

Northern mines, exclusive of Nevada bullion.....	\$19,719,900
Southern mines.....	3,385,010
	23,104,910
Add 10 per cent. for arrivals in private hands.....	2,310,491
	25,415,401

If we compare this production with that of the Australian gold fields during the last three years, we find that these latter have produced as follows :

1863	1,627,066 ounces.
1864	1,545,450 “
1865	1,556,088 “

The Australian gold is of remarkable fineness, averaging about $\frac{921}{1000}$, and worth, consequently, \$19 04 an ounce. This would be, in our currency, as follows :

1863	\$30,984,336
1864.....	29,425,368
1865.....	29,627,915

The mineral statistics which are published annually by the colony of Victoria give much valuable information concerning the present situation of the gold mining interest in Australia, and from them the above information has been gathered. The average earnings of the miners in this colony have been as follows during the last three years :

	Alluvial miners.	Quartz miners.
1863.....	\$487 45	\$596 24 per annum.
1864.....	296 69	632 44 “
1865.....	323 32	491 36 “

We have for this coast no statistics which will enable us to arrive at the average earnings of the miners in California with the same degree of accuracy, but there does not seem any reason to suppose that they are greater here than in Australia.

During the year 1864, of 1,545,450 ounces of gold exported from this colony, about one-third, or 503,618 ounces, were supposed to have been derived from the quartz mines. This proportion of two to one must be very nearly the relation which the gold produced from the placer diggings of California bears to that from the quartz mines, which probably does not exceed \$8,000,000 or \$9,000,000 per annum.

2.—CHARACTERISTICS OF THE GOLD BELT.

The auriferous belt of California extends from the Tejon pass, in latitude 35° , to the northern extremity of the State, or for a distance of about five hundred miles. The principal gold fields, however, and that portion of the State which has produced most largely, lies between about latitude 37° and the North Fork of the Feather river, or over a distance not exceeding two hundred and fifty miles. Towards the south, this gold-bearing range is narrow, rarely exceeding twenty-five miles in width. As we proceed north, however, it widens rapidly, and along the Feather and Yuba rivers it reaches from the lower foot-hills of the Sierra Nevada to the central axis of the mountains, or over a width of fifty miles from east to west. There are other diggings in the more northern part of the State, bounded by the Trinity, Upper Sacramento, and Klamath rivers, which at one time were valuable, and yielded largely, but now the principal interest attaches to those deep placers lying between the forks of the Yuba, those deposits which underlie the volcanic formation in many places on the auriferous belt, as far south as Tuolumne county, what are known as the cement diggings, and the quartz mines, which are to be found between Tulare county on the south, and Plumas county on the north. The "shallow diggings," which were formerly so immensely rich, and which attracted the first attention of the miner, are now, for the most part, hopelessly exhausted; but notwithstanding this, by far the greater proportion of the total gold production of California is still derived from the "washings," hydraulic and others; and this will undoubtedly continue to be the case until those immense auriferous deposits lying in the northern part of the State, principally in Nevada county, are exhausted. Nothing but an accurate survey will give anything like an approximation as to the length of time which will be required to work them out at the present rate. Now we have only the wildest conjectures and statements, the result of hasty examinations, as to their extent, and the probable amount of gold contained in them. At the present time, about eighty per cent. of the gold produced from the mines of California is derived from those lying north of the Mokelumne river, and the production from the southern mines, or those situated between Mariposa and Calaveras counties, is decreasing every year. Probably only about one-third of the gold productions of California comes from the quartz mines, leaving two-thirds to be furnished by the placer and cement diggings, or those sources of supply other than veins. Unfortunately, too little of a reliable nature is now known with regard to these latter, for me to venture upon an intelligent exposition of them; but enough is known concerning the former, to predict that quartz mining will continue to be one of the most lasting, as well as profitable, interests of this State, and there now seems no reason to anticipate that California will cease to be one of the principal gold-producing countries of the world for many years to come. I will therefore confine myself entirely to a description of a few of the more noted quartz mines of the State, showing, when it is possible, the amount of profit realized from the working of the quartz, its average yield, the expenses attending the milling and mining, and giving such other facts as may be considered as illustrating the present condition of this industry.

The principal quartz mining districts of California are in Tulare county, about Clear creek; in Mariposa county, on the Mariposa estate and its immediate neighborhood, and also round about Centreville, north of the Merced river; in Tuolumne county, within a few miles of Sonora, at Soulesbeyville, and near Jamestown; in Calaveras county, at Angels; in Amador county, near Jackson and Sutter creek; in El Dorado county at Logtown and vicinity; in Nevada county at Grass valley and Nevada; in Sierra county within a few miles of Downieville; in Plumas county at Indian valley and on Jamieson creek. These localities were nearly all centres of placer diggings before quartz mining became so important an industry. The width of this quartz-bearing range is, however, much narrower than that occupied by the placer workings, and while rarely more than twenty miles in width, is generally much less.

The number of veins in this belt is almost innumerable, but the proportion of those which contain gold in sufficient quantity to pay is exceedingly small.

The most reliable publication which has recently appeared with regard to the quartz veins of California was issued by the State geological survey in April, 1866. The statistics were compiled by Mr. A. Rémond, and give several important particulars with regard to the mills and mines in the region between the Merced and Stanislaus rivers. The district embraced by this report is about thirty miles long by from fifteen to twenty in width. Seventy-seven mines and sixty-five mills were examined and reported upon, and of these fifty-six mines and twenty-three mills were being worked at the time of Mr. Rémond's visit. So far as the mere number of the veins is concerned this region probably contains as many with features sufficiently promising to warrant exploration as any other district of equal size in California. The actual amount of capital invested in the erection of the mills examined has been \$430,300, and in addition to this a considerable sum has been spent in the construction of roads, flumes, and ditches, and by far the larger proportion of this whole sum has been expended since 1862, particularly in the years 1864-'65, and therefore several of the mills may be considered as experimental, and the veins upon which they are situated as not having been proved sufficiently to be able to state whether the yield as given to him by the proprietor will be lasting. It is certain that the gross production of this region from the quartz mines now being worked is not very large, nor does it as yet compare favorably with several other districts not nearly so extensive. The greater number of these veins vary in width from about one foot to two feet six inches, while in one case there is a vein noted which is twenty-five feet in width and another fifteen feet. The average width of all the veins examined would appear to be about three feet. The "country rock," or the rock in which the quartz veins of California are incased, is for the most part either slate, granite, or greenstone, and it is not yet determined which of these three formations can be regarded as furnishing the most prolific mines, for we have in each of them veins which have produced largely, and still are continuing to do so, though several of them have attained a considerable depth.

In Mariposa county, and particularly upon the Mariposa estate, the most noted veins are in the slate and have a direction and dip nearly coincident with the general stratification of the enclosing rock. The principal mine in the district is the Princeton, which has produced between two and three millions of dollars. It was first worked in 1852, and the quartz is said to have yielded as high as seventy-five dollars per ton for a short time, but this large return was probably owing to the various sulphurets contained in the quartz and associated with the gold having been more or less decomposed near the surface by atmospheric agencies, and the gold liberated by this means, so that the outcrops of the vein were far above the average richness of the quartz. Since 1861, and until within the last year, the rock from this vein has yielded an average of \$18 34 per ton, while the expenses of mining have been about \$6, and the cost of milling \$3 25.

This would show a profit over and above the expenses of working of nearly 50 per cent.

In the latter part of 1864 the yield of the quartz from this mine fell almost without giving any warning from \$40 to \$6 per ton, and for some time ceased to pay expenses. During 1865 the yield was better, but it is still far from affording as satisfactory results as in former years. The depth of the main shaft is nearly 650 feet, and the length of the underground workings not far from 1,400 feet. It is by no means certain that this mine is exhausted, and that another sinking will not open up new bodies of valuable ore. There are too many examples throughout California of mines falling off rapidly in their yield, and meeting with barren zones of quartz, both in depth and on the longitudinal extension of the vein, for any one to state positively that a lode which possesses so many characteristics of permanence as the Princeton should be abandoned, and that it will never again prove remunerative as in past years.

Near the northern end of the Mariposa estate are two mines known as the "Pine Tree" and "Josephine," which have been worked for nearly sixteen years. When this property passed into the hands of General Frémont these mines were considered as being among the richest as well as most reliable in California, and it is perhaps to be regretted that the anticipations formed at that time have never been realized, for it is mainly owing to their failure that so much discredit has been cast upon the quartz mining interest both at home and abroad. These two mines are situated in close proximity to each other, and although they have never been connected by underground workings they probably are upon one and the same vein. The Pine Tree vein has a direction nearly the same as that of the slates in which it is encased, or about northwest and southeast, while the Josephine runs more nearly east and west, and the axes of these two veins would form at their junction an angle of about forty degrees. Work is just now abandoned upon this latter mine, but is being actively prosecuted on the former, and the quartz is said to be paying better than was formerly the case, owing to a more careful selection and thorough metallurgical treatment. The outcrops of these veins are at an elevation of about fifteen hundred feet above the Merced river, and can be observed from a long distance to the north. Neither of them can be followed or traced individually for any great distance upon the surface in such a manner as to preserve their identity, and in this respect they in nowise differ from the great majority of gold-bearing veins in California. In fact, the experience of mining in this State has all tended to prove the fact that the longitudinal extension of these veins is generally very limited, and that the metalliferous portion is always considerably less in length than that of the quartz itself. This remark applies equally to the numerous copper-bearing veins which have been recently discovered, some few of which are valuable, while their "extensions" are almost invariably worthless.

The outcrop of these mines is a very marked and noticeable feature in the landscape. They form part of what is known as the great quartz vein of California, which can be traced by its prominent outcrops about seventy miles north from Mariposa county, in nearly a straight line, continuing through Tuolumne, Calaveras, and Amador. It cannot be proved positively that this is one and the same vein, on account of the many breaks and interruptions which occur in its course, but certain it is that throughout this distance it preserves its distinguishing characteristics, both geologically and lithologically in a most remarkable manner. It furnishes some of the best gold mines in California, which are conspicuous for the great regularity of their yield, and the depth which they have attained. Along its course and in its immediate vicinity are some of the most extensive placers, which, although now for the most part exhausted, have in times gone by produced so largely that while worked they were regarded as being among the richest deposits in California. It must not be presumed that

this great vein is gold-bearing throughout its whole course, or that even a notable proportion of the quartz which rises into peaks and mountains between Mariposa and Amador counties is auriferous. It is only here and there at wide intervals that mines can be found which can be worked with a profit. Mr. Remond enumerates twenty as being found in the region which he examined, many of which are undoubtedly still experimental enterprises, and may yet be abandoned.

The yield of the quartz from the mines situated on this great vein is generally low and somewhat under the average of the California quartz, but the gold-bearing portion of the vein is always of greater width than elsewhere, and the quartz can be mined at less expense than in those veins which are narrow and encased in the harder varieties of metamorphic rock.

The gross production of the Pine Tree and Josephine mines has been, undoubtedly, very large, though it is utterly impossible to state, with any degree of approximation, what it was previous to 1860. Since June, 1860, the quartz from these two mines has been treated at the Benton mills, on the Merced river, and from the time they commenced running until March of the following year the gross yield was about \$155,000. The quartz near the surface paid much better than that which has been worked at the Benton mills. Not only does it appear to have been absolutely somewhat richer, but, owing to the decomposition of the sulphurets which existed in the Josephine rock in large proportions, it lent itself to a more ready amalgamation. Also, as it was worked in a ten-stamp mill, of comparatively small capacity to the Benton mills, which have sixty-four stamps, the mining superintendent was able to select his quartz with much more ease, and send only the better quality to the mill. The quartz from these mines in 1860 averaged about \$9 per ton, and gradually grew poorer as the richer portions of the vein were worked out. The cost of mining, milling, and transportation amounted to about \$5 50 per ton. This amount of \$9 per ton is what was actually obtained in the mill, although there seems every reason to suppose that much more gold than that was really contained in the quartz, and, in fact, more has been lost and allowed to run to waste than has been secured. On several occasions attempts have been made to ascertain what proportion was lost and what saved, and it would appear that in the case of this quartz not more than forty per cent. of the gold actually contained in it was saved in the process of milling. The cause of this appears to be almost entirely owing to the very fine state of subdivision in which it exists, for very few specimens show any gold visible to the naked eye. Experiments are now being conducted on the Mariposa estate which seem to confirm this view, for on treating the quartz which formerly only returned \$10 or \$15 per ton, by more careful methods of amalgamation, it has been made to yield between \$40 and \$50. It is not to be presumed from this statement that all the vein consists of quartz of this richness; but there is a large amount which will certainly yield, by improved processes of treatment, much more than it has ever been possible to obtain from it by the ordinary rough method.

3.—NORTHERN MINING DISTRICTS.

As we proceed northward from Mariposa county, the next most interesting mine we meet with, situated upon the "Great Vein," is the App, near Jamestown, a few miles from Sonora, the county seat of Tuolumne. This mine has been worked almost uninterruptedly for nine years. The average yield of the quartz has been at the rate of \$15 52 per ton, and the expenses of mining and milling have not exceeded \$7 47 per ton. The yearly yield during this period has varied from \$13 26 to \$19 47 per ton, and the lowest monthly return was at the rate of \$12 15; but even then a considerable profit was realized over and above the expenses. The lower works of this mine now present as fine an

appearance as they have ever done, and when we regard the length of time during which it has been successfully worked, the great regularity of the yield of the quartz, and the various characters of permanency which the vein preserves, we have strong reasons for arguing that it will prove as persistent in depth as almost any other mine in California. In its external characters the quartz from this mine resembles very much that taken from the Pine Tree mine. The greater proportion, however, of the gold which it contains is in such a fine state of subdivision that it rarely happens that any of it is visible to the naked eye, and undoubtedly a great deal escapes amalgamation and is lost. By more thorough treatment in the mill, there seems every reason to suppose that the yield could be largely increased. Experiments have been lately instituted—and they would appear to confirm this statement—most fully showing that by more careful amalgamation the quartz, in some instances, can be made to yield from 50 per cent. to 140 per cent. more gold without a corresponding increase in the expense of treatment. Attention is now being given to this important matter throughout California, and experiments are being made in several mills to ascertain to what extent the gold is lost in the process of treatment, and how far it will be economical to erect new machinery for the purpose of saving it. The gold which is contained in the auriferous quartz exists either in such minute particles as to be quite invisible, and not distinguishable from the quartz itself, else in pieces of larger size, which can be readily seen and separated by pulverization and washing, or by the simplest forms of amalgamation, or else combined, probably mechanically, with the sulphurets of iron, zinc, and lead. In the first and last cases it is amalgamated with great difficulty, and it rarely happens in any of the mills of California that more than a small proportion of the gold is saved. When, however, it is in the state of free gold, as in the second instance, a notable proportion is secured by the most simple methods, and it is not likely that additional machinery would increase the yield sufficiently to pay for its cost. In the quartz from a vein upon the Mariposa estate, known as the "Mariposa," there are but comparatively few sulphurets present, and from repeated assays made from the tailings from the mill it would appear that almost 90 per cent. of the gold contained in the quartz was secured, while at the Benton mills, working upon Pine Tree quartz, only between 30 or 40 per cent. was saved. In this connection it may not be uninteresting to show what has been done in this direction in other countries, and how far it is possible to increase the yield of very refractory gold-bearing ores by careful working and skilful treatment. One of the oldest, and, when we consider the rebellious character of the ores, one of the most successful gold mines in the world is that of St. John Del Rey, in Brazil. The company now in possession has been in operation thirty-six years, and though, like nearly every other mining company, it has had its full share of ups and downs, the general results obtained have been most satisfactory to the shareholders, and it was only through the most careful, economical management of both the mining and milling departments that this end has been arrived at. There is no quartz mine in California which has ores in any quantity of so complex a nature or of so difficult a treatment as those of St. John Del Rey. They consist principally of specular iron mixed with sulphuret of iron, magnetic pyrites and quartz. The auriferous mass at this mine is about forty-four feet in width, and, like most of the gold-bearing veins of California, dips with the rocks in the vicinity at an angle of about 45° to the southeast.*

The vertical depth upon which this deposit has been worked is now 1,068 feet. Before the present company came into possession it had been worked for a hundred years, and was considered exhausted.

A recent number of the London Mining Journal gives some interesting details

* Whitney's *Metallic Wealth of the United States*, p 112.

with regard to the present financial position of this company, and as these favorable results were only obtained by economy in the management and skilful treatment of the ores, which yield far less than the average of California quartz. I will give a condensed statement of their operations for the last thirty-six years. The effective capital of the company is £129,000, divided into 1,100 shares, and there has been paid in dividends £756,245, or £68 15s. per share. There is on hand a reserve fund of £41,506, and the value of the property of the mine is estimated at £209,743, showing a total profit during the thirty-six years' working of £1,007,494. The produce of the mine during this period has been £2,902,480, and the expenses £1,894,986, or 65 3 per cent. of the gross receipts. The average yield of the ore raised and treated has been at the rate of 4½ oitavas per ton of 2,240 pounds. This is equivalent to about \$8 50, or \$7 59 reduced to the usual California ton of 2,000 pounds. The yield for the last three years has been as follows:

1863, 5,787 oitavas per ton, at \$1 89 per oitava, \$10 94; 1864, 4,827 oitavas per ton, at \$1 89 per oitava, \$9 12; 1865, 5,479 oitavas per ton, at \$1 89 per ton, \$10 36.

During this period of the total amount of gold contained in the ore there was extracted the following percentage:

1863, 72.35 per cent.; 1864, 75.52 per cent.; 1865, 77.95 per cent.

The various processes heretofore employed in California for amalgamating gold have been of the simplest possible description, and, although probably in a majority of instances where the gold was clean, free and uncombined with the sulphurets of iron, lead, copper, and zinc with which it is so frequently associated, these methods worked well, and the erection of expensive machinery, which would necessitate slower working, would not be warranted by the facts of the case. Yet it has often happened, particularly in those mines situated upon the course of the "Great Vein," that quartz which has been known to contain gold in paying quantities has not yielded when treated in the mill more than sufficient to pay expenses, and sometimes has been worked at a loss. This would appear to be chiefly owing to the inefficiency of the apparatus employed to collect and save the gold, which may have been in a very fine state of subdivision, or coated with a thin film of oxide of iron arising from the decomposition of pyrites, which prevents the mercury from adhering to it without the use of more vigorous mechanical or chemical means than are usually employed.

At and near Sutter creek, in Amador county, there are several very excellent mines situated upon the course of the "Great Vein." The most noted of these is that belonging to Messrs. Hayward & Co., and known as the Eureka. This mine has been worked for about eleven years, and has produced probably nearly as much gold as any other in California. The quartz has never averaged very high, and the principal production has been from ores of a low grade, not yielding probably more than from \$10 to \$15 per ton. The mine is situated at the junction of the slates and greenstone, the hanging or eastern wall of the vein being of the latter material, hard and compact, while the foot-wall is of a dark and soft argillaceous slate. The depth of the lowest workings is now 1,213 feet on the incline of the vein, which makes this shaft the deepest in the United States. The length of the underground workings is about 600 feet, and at the north and south extremities the vein thins out rapidly. The richest portion of this vein appeared to be at a depth of between 1,000 and 1,100 feet, where the quartz is said to have yielded nearly \$30 a ton. The great depth attained in this mine shows conclusively that we cannot draw any general conclusions with regard to exhaustion of quartz veins at an inconsiderable depth. It is true that in nearly every quartz mine of California the out-crop has been found to be much richer than the main body of the vein at even a short distance from the surface, but it must be borne in mind that many of the veins, and in fact a majority of them, contained gold associated with various mineral sulphurets,

which were decomposed, and the gold infiltrated down for some distance below the surface of the ground, covering the upper portion, to appear abnormally rich. Thus the gold contained in the first few feet of the vein may be the result of the degradation of many tons of quartz and the decomposition of a large quantity of sulphurets. It is only by taking the results afforded by the treatment of quartz during a series of months that anything like a correct average of the value of the ore can be obtained, and although this Eureka mine has probably yielded as regularly as any other prominent mine in California, it has been subject to great irregularities, and frequently the quartz has barely paid expenses. The popular idea that mineral-bearing veins grow richer as they are worked upon in depth, is a fallacy, and has no truth either in theory or fact; nor can we say that true veins, as distant from veins of segregation and mineral deposits, grow poorer as we proceed downwards. I do not suppose there is a metalliferous vein in the world that is equally rich for any considerable distance, either lengthwise or up and down, and the valuable portion is almost always very limited in extent compared with the main body of the vein. Some of the silver veins of Mexico, which have produced such enormous sums, have been traced for miles, and on their course have furnished many valuable mines, but by far the greater proportion of the vein has been barren and unproductive. The Comstock vein of Nevada, which has already produced upwards of \$60,000,000 worth of bullion, has been productive only over about one-seventh of its explored length.

These remarks apply with great force to the gold quartz veins of this coast. The ore exists in bunches or else in shoots or chimneys which cut the axis of the vein at every conceivable angle between the horizontal and the vertical, and these are always less than the length of the vein itself and sometimes than its width also.

It frequently happens that these ore shoots have distinct terminal lines, and in these cases the experienced miner is enabled to select his ore and avoid extracting that which he knows is too poor to pay. On other occasions, however, it would appear that the gold is distributed without any regularity and apparently in the most capricious manner. When we consider the richness of the veins, the length of time that some of the mines have been worked, and the amount of gold annually produced, the most important quartz mining region of California is without any doubt that of Grass valley, in Nevada county. Here mines have been worked uninterruptedly since 1851. It is true there have been periods when the interest was more than usually depressed and several of the mines, which are now regarded as being among the best, were thought to be exhausted, and abandoned for the time being, but in many instances when work was resumed new bodies of gold-bearing quartz were opened up, which proved rich and valuable. The veins in this district, and particularly those which have been the most productive, are noted for their narrowness as well as for the richness of the quartz. They are encased in a hard metamorphic rock, and the expenses of mining are, as a general thing, higher here than anywhere else in California, amounting, as they do in some instances, to from \$20 to \$26 per ton. Within the last fourteen years the total production from the quartz mines of the Grass Valley district has not been far from \$23,000,000. The most prolific vein has been that situated upon Massachusetts and Gold Hill, which alone has produced more than \$7,000,000 worth of gold during this time from a lode which will only average a foot or fourteen inches in width.

The "Eureka" is another prominent and leading mine in this vicinity. One great feature of interest connected with it is the gradual improvement of the quartz as greater depth has been attained upon the vein, which varies in width from three to four feet. This mine was first worked in 1854, and more or less ever since that period. About one year ago the property changed hands, and since that time the yield of the mine has been greater than at any previous

time. When this vein was first worked and down to a depth of about thirty-five feet from the surface, the yield of the quartz was from \$6 to \$12 per ton, which but little more than paid expenses. Below this level the value of the quartz rapidly increased from \$14 to \$21, and at the one hundred foot level the quartz paid at the rate of \$28; at the two hundred foot level the average was about \$37, and now, between the second, and third levels or three hundred feet from the surface the average yield has been during the last four months at the rate of over \$60 per ton. The quartz contains from two to three per cent. of sulphurets of iron, which are said to assay generally about \$300 per ton, and are regarded as being among the richest in Grass valley. These sulphurets are worked by parties in the neighborhood, who charge \$50 per ton and return whatever gold is extracted to the proprietors of the mine. During the four months which preceded the first of October the mine produced 42,227 $\frac{3}{4}$ tons of quartz, which yielded \$255,072 55, and the expenses of mining and milling were \$67,320 83, leaving as profit \$187,751 72. The average yield of the quartz during the period was at the rate of \$60 33 per ton. During the whole year the amount of quartz worked was 11,375 $\frac{3}{4}$ tons, which produced \$526,431 41, at an expense of \$168,389 23, leaving as profit for the whole year \$368,042 18. The average yield per ton was \$47 15, and the average cost of mining and milling was \$13 75, leaving a profit of \$33 40 per ton.

4.—MINING IN THE SIERRAS; MILLS, EXPENSES, &c.

In thus dismissing the Grass Valley district with only a brief description of two of its leading mines, I do not intend to detract at all from its past, present, or future importance, for there is no region in California, or probably upon the Pacific coast, where, by a careful study of the numerous veins in this neighborhood, so much information could be obtained which would throw light upon the vexed questions relating to gold mining and the metallurgical treatment of the quartz.

As we proceed north from Nevada county, the next most important quartz mining district is in the mountainous region round about Downieville, the county seat of Sierra. The placer mines in this vicinity have been exceedingly rich, and surpassed only by those in Nevada county in extent and permanence. Quartz mining, however, has received but comparatively little attention until within the last few years, probably owing to the rugged nature of the country and the severity of the climate during the winter months.

The most noted mine in this county, as well as the one which has produced most largely, is that known as the Sierra Buttes. This mine is about fourteen miles from Downieville, at an elevation of probably not less than 7,000 feet above the sea. The vein is enclosed in a hard metamorphic slate, and varies in width from six to thirty feet. In the process of working, the whole thickness of the vein is not removed, and the richer portions, which lie next the foot-wall, are sent to the mill. The average width of this more productive streak is about twelve feet. The depth upon which this vein has been worked is not far from 750 feet, and the quartz in the lower portion of the mine is said to pay as well as that taken from the upper works. Quartz from near the surface of this vein was worked in arrastras as early as 1851, but the first mill was erected in 1853. The present owners have been in possession of the property since 1857, and the yield of the mine has been, during the last nine years, approximately as follows :

	Gross yield.	Expenses.	Profits.
1857.....	\$51,000	\$15,000	\$36,000
1858.....	55,000	15,000	40,000
1859... ..	88,000	20,000	68,000

	Gross yield.	Expenses.	Profits.
1860.....	\$120,000	\$37,000	\$83,000
1861.....	198,000	48,000	150,000
1862.....	166,000	54,000	112,000
1863.....	156,000	57,000	99,000
1864.....	90,000	75,000	15,000
1865.....	196,000	64,000	132,000
	<u>1,120,000</u>	<u>385,000</u>	<u>735,000</u>

The yield of the quartz varies generally from \$14 to \$17 per ton, and the cause of the falling off in the gross product during 1863-'64 was the great scarcity of water, which necessitated the erection of a flume at an expense of \$40,000.

The principal expenses attending the working of auriferous quartz are the cost of extracting the quartz from the mine and its subsequent treatment in the mill. With regard to the first no general data can be given, for the amount paid for mining varies from \$1 50 to \$26 per ton. It is dependent upon the hardness of the quartz; the hardness of the country rock in which the vein is encased; the relation which the auriferous portion of the vein bears to that which is barren; the depth of the workings, and finally the amount of water in the mine, and whether it has been drained by adits or pumping. As a general rule, however, it may be assumed that in the case of large veins, or those which exceed five or six feet in width, that the cost of extraction will be from \$1 50 to \$6, and that the total cost of mining and milling will not be more than \$7 or \$8 per ton under any circumstances.

With regard to the milling expense, however, we have accurate data to follow, and these are not much affected by change of locality.

The mills are generally situated in close proximity to the mines, for the difference between the cost of running a steam and a water mill is almost always less than the cost of hauling the quartz for any distance by teams. The mills are of nearly all sizes and capacity, and vary from those which have only two or three stamps to those which have forty-eight. The weight of these stamps is from 400 lbs. to 1,000 lbs., and they are run at a velocity varying from 50 blows to 80 blows per minute and fall from 10 to 14 inches. The favorite weight would appear to be about 650 lbs., with a fall of 12 inches and a velocity of from 60 to 70 blows per minute. It is generally assumed that a ten-stamp mill, with stamp of 550 lbs., falling 12 inches and striking 60 blows a minute, will crush 12½ tons of ordinary quartz in the twenty-four hours.

The mills which are moved by water power alone are situated either on the banks of rivers and streams where the water is free, or else the water is conveyed to them by a flume from some neighboring ditch and sold at a price which is generally the result of special agreement.

In the case of steam mills the fuel is always a principal item of expense. Wood—either pine or oak—is universally employed, and costs from \$2 to \$4 50 and even \$5 per cord. Oak, when the two can be obtained and are equally convenient of access, generally costs one-third more than pine and is regarded as being nearly twice as valuable for steam purposes. The mean amount of fuel consumed in the steam quartz mills of California is not far from 0.164 cord for each ton stamped. The prices paid for labor in the mining towns is still very high, and in many cases operates as an effectual barrier to the working of some quartz mines. First class miners receive from \$3 to \$3 50, and in some cases as high as \$3 75 per day, while ordinary laborers receive from \$2 to \$2 50. In the milling of quartz the item of labor is generally from 60 per cent. to 75 per cent. of the total expense. In mining the proportion which this item bears to the whole cost is much greater, so that it is easy to perceive to what an ex-

tent a reduction of wages would operate in favor of the quartz mining interest of this coast.

The mercury that is used in the process of amalgamating is derived entirely from the California mines, and generally costs the miner about sixty-five cents per pound; very little, however, is lost in the mills when proper care is observed, and this item of expense is insignificant, for it rarely exceeds six ounces for each ton of quartz treated, and frequently falls below this amount.

The average cost of milling quartz in the various mills of California may be stated as follows:

In water mills, when water is free.....	\$1 22 per ton of 2,000 pounds.
In water mills, when water is purchased.....	1 60 per ton of 2,000 pounds.
In steam mills.....	2 14 per ton of 2,000 pounds.

It is very difficult to state, even approximately, what is the present average yield of the quartz from the California mines. It is probable, however, that it has not varied much within the last five years, and in 1861, taking the returns from those mines which were at that time believed to be profitable concerns, it was at the rate of \$18 50 per ton. The two extremes were a mine in Grass valley, which was yielding at the rate of \$80 per ton, and another at Angels, in Calaveras county, where the quartz only paid \$5, and was still being worked at a small profit.

I remain, very respectfully, yours,

WM. ASHBURNER,
Mining Engineer.

J. ROSS BROWNE, Esq., *Statistical Commissioner.*

SECTION 3.

CONDITION OF GOLD AND SILVER MINING ON THE PACIFIC COAST.

1. Decrease of yield.—2. Export of treasure from California.—3. Receipts from northern and southern mines.—4. Comparison of receipts and exports.—5. Quartz yield increasing.—6. Uncertainty in quartz mining.—7. Professor Ashburner's statistics.—8. Rémond's statistics.—9. Pulverization of quartz.—10. Amalgamation of gold.—11. Sulphurets and concentration.—12. Chlorination.—13. Gold in loose state.—14. Placers.—15. Cement mining.—16. Hydraulic mining.—17. River mining.—18. The Haquard quartz mine.—19. Sierra Buttes mine.—20. The Allison mine.—20½. The Eureka mine.—21. Smartsville Blue Gravel Company's mine.—22. Profits of mining generally.—23. Difficulties of getting good claims.—24. Comstock lode, the most productive in the world.—25. Comstock mining companies.—26. Quartz mills in Nevada.—27. The pan.—28. The Wheeler pan.—29. The Varney pan.—30. Knox's pan.—31. Hepburn pan.—32. The Wheeler & Randall pan.—33. Estimated yield of various mines.—34. Assessments levied.—35. The Gould & Curry mine.—36. The Ophir mine.—37. The Savage mine.—38. The Yellow Jacket mine.—39. The Crown Point mine.—40. The Hale & Norcross mine.—41. The Imperial mine.—42. The Empire mine.—43. Productive mines of Reese river.—44. Yield of various silver districts.—45. Improvements in silver mining.

1.—DECREASE OF YIELD.

The first fact in the condition of gold mining in California is that the yield is and for the last thirteen years has been decreasing. We know this by the concurrent testimony of the miner, by the decrease in the traffic of crude bullion, and by the decline of the exports of gold. No record is kept of the amounts taken from the mines, and our best evidence in regard to the produc-

tion is furnished by the reports of the receipts and shipments by express and steamer. From these we can get an approximation sufficiently near to serve all general purposes. The gold yield of California reached its culminating point in 1853, and the exportation of treasure, which rose in that year to \$57,000,000, gradually fell until 1861, when it was \$40,000,000. Then the silver of Nevada and the gold of Idaho began to come in and the amount of the shipments rose again.

2.—THE EXPORTATION OF TREASURE FROM CALIFORNIA.

The following table shows the amount of treasure manifested for exportation from San Francisco :

Years.	Amount.
1849.....	\$4, 921, 250
1850.....	27, 676, 346
1851.....	42, 582, 695
1852.....	46, 588, 434
1853.....	57, 330, 034
1854.....	51, 328, 653
1855.....	45, 182, 631
1856.....	48, 880, 543
1857.....	48, 976, 697
1858.....	47, 548, 025
1859.....	47, 649, 462
1860.....	42, 203, 345
1861.....	40, 639, 080
1862.....	42, 561, 761
1863.....	46, 071, 920
1864.....	55, 707, 201
1865.....	44, 984, 546
Total.....	<u><u>740, 832, 623</u></u>

It is well known, however, that this sum is far less than the total production of the coast. In the first place about \$45,000,000 must be added for the amount of gold and silver now in use in the Pacific States and Territories for currency; that amount being the estimate made by experienced bankers.

A second allowance must be made for gold jewelry and silver plate made in the country, and for specimens of nuggets and rich ores, the value of which may be \$5,000,000. Many of the miners in remote camps bury their gold dust until they are ready to return to the Atlantic coast, and \$5,000,000 may be laid by in that manner. But the greatest variation between the production and the manifested export was caused by the custom, common among passengers bound eastward, of carrying their dust or coin on their persons, so that no one knew how much they took. Thus there is no manifested export for 1848, and less than \$5,000,000 for 1849, and less than \$28,000,000 for 1850, while the actual production and exportation of those years was about \$100,000,000. We can safely put down the amount carried away in sixteen years unmanifested at \$200,000,000, and by this calculation we shall have a total production of about \$1,000,000,000, from the coast up to the end of 1865. Of this sum all has come from the mines of California, save about \$100,000,000 contributed by Nevada, Idaho, Oregon, Arizona, Washington, and British Columbia. The accounts, however, of the contributions from these States and Territories have not been accurately kept, with the exception of Nevada, so it is impossible to give any precise statement of them.

3.—RECEIPTS FROM NORTHERN AND SOUTHERN MINES.

The express company of Wells, Fargo & Co. transport nearly all the treasure produced on the coast, and they could, from their books, show the shipments of coin and bullion from every large mining town west of the Rocky mountains; but they have considered it advisable to allow the publication of the receipts of treasure at San Francisco only from the principal districts since 1860.

The following table shows the receipts of treasure, coined and uncoined, from the northern and southern mines of California:

Years.	Northern mines, California.	Southern mines, California.	Total, Califor- nia.
1861.....	\$26,346,431	\$9,363,214	\$35,709,645
1862.....	28,138,021	8,154,702	36,292,723
1863.....	25,429,157	7,411,931	32,841,088
1864.....	22,804,677	6,858,153	29,662,830
1865.....	24,557,570	6,428,960	30,986,530

Of the treasure thus received at San Francisco, about \$4,000,000 annually is in coin, leaving the remainder to indicate the value of the dust and bars.

The "northern mines," as mentioned in the above table, include all those districts which send their treasure to San Francisco by way of Sacramento, or, in other words, all the interior of the State north of latitude $38^{\circ} 30'$, while the "southern mines" include those districts which send their treasure by way of Stockton. To express it differently, the term "northern mines," as here used, means the counties Siskiyou, Shasta, Trinity, Plumas, Butte, Lassen, Sierra, Yuba, Nevada, Placer, El Dorado, Sacramento, and parts of Calaveras and Amador; while the term "southern mines" means Tulare, Fresno, Inyo, Kern, Stanislaus, Mono, Mariposa, Tuolumne, and parts of Calaveras and Amador. The extension of the railroad from Sacramento to the vicinity of Placerville, in 1863 and 1864, drew to Sacramento some trade that previously went to Stockton. The receipts from the southern mines show a marked and steady decrease. During the first nine months of 1866 the receipts from the southern mines were \$3,418,436.

Receipts from Nevada and the northern coast.

The receipts from other places are the following:

Years.	Nevada.	Northern coast.	Foreign ports.
1861.....	\$2,275,256	-----	\$1,702,683
1862.....	6,247,074	\$4,931,579	1,904,084
1863.....	12,486,238	4,970,023	2,156,612
1864.....	15,795,585	8,052,968	1,715,024
1865.....	15,184,877	7,495,766	1,709,390

The "northern coast" means those mines which send their treasure to San Francisco by ocean steamers plying to ports of Northern California, Oregon, and Vancouver island. The term "foreign ports" excludes Victoria, and includes Mazatlan, Guaymas, La Paz, Honolulu, China, and Japan. San Francisco stands on a long peninsula, and all the traffic with the gold and silver mining regions is done across water. The yield of the northern mines is brought by the Sacramento steamers; the yield of the southern mines by the Stockton steamers; the yield of the northern coast by the northern coast steamers, and the imports from foreign ports are brought by other vessels.

The sources of the receipts are classified according to the vessels in which they are brought. These receipts are, however, not all in the precious metals as they come from the mines and mills, but portions are in coin.

Thus the coin included in those receipts was \$9,363,214 in 1861, \$5,593,421 in 1862, \$6,383,974 in 1863, \$5,743,399 in 1864, and \$4,961,922 in 1865. No accounts have been kept of the coin sent to the interior; but all this coin received must have gone from San Francisco, which has the only mint of the coast, and is the point at which nearly all the passengers and treasure arrive.

4.—COMPARISON OF RECEIPTS AND EXPORTS.

The following figures show the exports, the receipts, and the difference between exports and receipts for the last five years :

Years.	Exports.	Receipts.	Difference.
1861.....	\$40,639,080	\$43,391,760	\$2,752,680 gain.
1862.....	42,561,761	49,375,462	6,813,701 “
1863.....	46,071,920	52,953,961	6,382,041 “
1864.....	55,707,201	55,228,907	478,794 loss.
1865.....	44,984,546	55,467,573	10,483,027 gain.

The total amount of coin receipts for the five years was \$32,045,928; and the excess of receipts over exported during the same period was \$25,952,655. A large part of the coin received must have belonged to the regular circulation of the country, going and coming with the current of trade. The receipts of treasure at San Francisco during the first nine months of 1866 were \$3,000 less than in the corresponding period of 1865.

The year 1862 was unfavorable to mining in California because of a great flood, and 1863 because of a great drought; and some special unexplained influence may have operated to reduce the production and shipment in 1865; but the annual gold yield of California cannot now be safely estimated at more than \$27,000,000. Several millions of each year's produce of the precious metals may be retained on the coast for purposes of currency, ornaments, and table-ware.

5.—QUARTZ YIELD INCREASING.

The yield of the quartz mines is increasing slowly, as we know by the general testimony of the miners and by the increase of quartz mills; but there are no statistics to show the rate of increase. Although some mines have paid steadily at about the same rate for the last ten years, the business generally is very uncertain. Thus it appears from a report made by Mr. Rémond, State geological surveyor, that of sixty-three mills built in Tuolumne and Mariposa counties, between the Merced and Stanislaus rivers, thirty-eight were not running when he visited them between August and November, 1865, and in many instances the veins had ceased to yield quartz rich enough to pay. And so it is in every part of the State where quartz mills have been built—a considerable portion of them have been abandoned as very unprofitable investments. And yet every week new and valuable veins are discovered, and they cannot be left unworked; and though many quartz miners fail, yet others are deriving princely revenues from their claims.

Grass valley, the chief centre of the quartz mining of California, is becoming richer every year. It is safe to estimate that the capital invested in quartz mines and mills is yielding an average profit of twenty per cent. per annum, and that the average yield is at least three dollars per day for the men regularly at

work on mines which have been fairly opened. There are in the State a multitude of men engaged nominally in quartz mining who really spend much of their time in prospecting and lounging about, unwilling to work hard for ordinary wages, but preferring to ramble over the country in the hope of striking a fortune. As to the well known mines the yield on some of them is more than twenty dollars per day to the hand the year round.

6.—UNCERTAINTY IN QUARTZ MINING.

There are certain elements of uncertainty in quartz mining not found in farming or manufacturing. The farmer, on looking at the soil, knows that it will produce grain enough to support him; he can ascertain precisely what it will cost him to transport his grain to a market, and so can calculate how much money he will receive from an ordinary crop. There is a possibility of a great drought or a great blight, but he has, perhaps, a little capital as a reliance in such a case, and he makes his estimates on the basis of an average season. If he cannot afford to risk anything, he does all his work with his own hands, and he cannot lose more than his time.

The manufacturer is uncertain about the price which he must pay for the raw material, but he knows the world will have the goods, and will pay as much to him as to anybody else, and if he can manufacture a little cheaper than others he is certain of his profit. If he is incompetent to manage the business successfully, some one else can afford to buy him out at the cost of the building and machinery and make it pay. When a manufacturing establishment is once erected by a person of judgment and experience, it is presumed that the business will go on steadily for generation after generation. The supply of the raw material and the demand for the manufactured article, at least if the goods are not of the sort required by fickle fashion, will remain constant.

But with gold mining it is different. Auriferous quartz lodes have paying quantities of metal only in spots or streaks. The law of the distribution of the precious metals in veins is yet unknown. The quartz may be traced for miles, but only here and there will it pay to work. No mineral lode anywhere is worked, I believe, with much profit for more than two continuous miles, and it is seldom that the pay-rock extends more than one thousand feet along a vein. The great quartz lode of Mariposa, called sometimes the mother vein of California, has been traced, it is supposed, for thirty miles or more; at least croppings of a large lead of the same quality of quartz, nearly in a straight line, are seen at various points between Bear valley, in Mariposa county, and Angels, in Calaveras county; and it is assumed that these croppings all belong to the same lode. In some places this vein is very rich, but the rich spots are not long, and are far apart, and in the intervals the rock is nearly or entirely barren. The miner may find quartz containing ten dollars to the ton, and he knows if the supply is abundant he may make a fortune from his claim; but to explore the lode requires a large capital, and there is no certainty of any return. The rock is too poor to work without a mill, and there is not enough in sight to justify the erection of a mill. If he takes the risk, and the pay-rock is soon exhausted, his mill, in that position, becomes worthless, and he loses the cost of all his framework, roads, and ditches, which, with the transportation, is frequently greater than the cost of the machinery proper. The manufacturer knows that his supply of cotton, wool, iron, leather, or wood, will not fail altogether, and if it becomes scanty he can raise his price so that his work will still be profitable; and the farmer knows that his soil will produce grass and grain as long as he lives; but the quartz miner does not know that the supply of his pay-rock will keep steady, and if it runs short he cannot expect the price of the precious metals to rise so that he can sell his produce for a higher price per pound.

There is again a great diversity in the facilities for quartz mining at different

places. The farmer or the manufacturer usually goes into a level country with open roads, and after ascertaining the distance to the market and the cost of transportation, he can decide whether he can afford to go into business. Perhaps he would find fifty places within a range of ten miles, all equally good for his farm or his factory. But with the miner the case is different. The mines are usually found in the mountains, where there are no roads, water is not conveniently accessible, and wood is scarce. The rock in one part of the lode is hard, in another soft; in one there is much sulphuret of iron, in another little. It is relatively cheaper to work a wide streak of pay-rock, other things being equal, than a narrow one. The mill may be far or near; it may be above the level of the mine or below it; the water for washing the pulverized rock may be obtainable for only part of the year, and the gold may be found in thick masses so that the workmen can conveniently pilfer considerable quantities. Many of the mines are in secluded places, where men of wealth do not like to live, and the property is put in charge of hired men, who lack the zeal and care of a proprietor. These are some of the points in which there are serious variations. It may safely be said that a farmer owning a hundred acres of rich soil on a prairie within twenty miles of any large town of Illinois, is certain of being able to make a very comfortable living; but a miner with a vein of auriferous quartz yielding ten dollars to the ton, within ten miles of a California town, is not certain of anything until he has examined the vein, its position its size, the character of the vein-stone and accompanying minerals, and the proximity and quantity of wood, besides a number of other particulars.

These are some of the diversities of circumstances which beset quartz mining in different places, and render it impossible to give a statement of the expenses of taking out rock, building a mill, and reducing the ore, applicable to the majority of the mines. It is useless to attempt to convey any precise idea about matters in which the variations are so great between the workings of different mines, and between the workings of the same mine at different times. All that can be done is to collect the facts in regard to the operations of the mines and mills of which we have reports, so as to show the range.

7.—PROFESSOR ASHBURNER'S STATISTICS.

In 1861 Professor W. Ashburner, connected with the State geological survey, prepared a tabular statement of the operations of the principal quartz mills then running in California. Of these there were four in Mariposa county, eight in Tuolumne, three in Calaveras, seven in Amador, three in Eldorado, two in Plumas, two in Sierra, and nine in Nevada—thirty-eight in all.

It appears from his table that in seven of the mills the stamps 400 and less than 500 pounds each; in eight mills the weight was 500 and under 600 pounds; in eight the weight was between 600 and 700 pounds; in eight it was 700 and less than 1,000 pounds; in two it was 1,000, and in one 1,500.

The height to which the stamp was raised when allowed to fall varied from eight to fourteen inches. In ten mills the height was ten inches; in six, twelve inches; in five, fourteen inches; in four, thirteen inches; in one, eleven inches; in one, eight inches; in one, nine inches.

In thirteen mills the speed of the blows was from sixty to sixty-five inclusive per minute; in ten mills it was from fifty to fifty-eight; in three mills it was from forty to forty-eight; in three mills it was seventy; in three mills it was eighty; and in one mill it was thirty-two per minute.

In six of the steam-mills the consumption of wood for ten tons of ore crushed was from a cord to a cord and a half; in eight mills it was from a cord and a half to two cords; in two mills it was from two to three cords; in three mills it was less than a cord; in one mill it was over three cords, and in another five cords.

The loss of mercury is reported for twenty-nine mills, and in two the loss

less than a pound in working one hundred tons of quartz; in twenty-one the loss is less than a pound in working ten tons; and in six the loss is over one pound in working ten tons. The lowest loss is seven pounds in working one thousand tons, and the yield of the rock there is reported to be \$25 per ton, and the highest is one hundred and ninety-eight pounds for one thousand tons; and in that case the rock is reported to yield \$17 14 per ton. The general rule is, however, that the higher the yield of gold, the greater the loss of quicksilver per ton, because more must be used.

The cost of extracting the quartz is reported for twenty-eight mines. In eight, it is \$2 and less than \$3; in four mines it is \$3 and less than \$4; in two mines it is \$4 and less than \$5; in five mines it is \$5 and less than \$6; in three mines it is \$6; in two mines it is less than \$2; in three mines it is between \$7 and \$14; in one mine it is \$15; in another \$20; and in another \$26.

The average yield per ton was \$5 and less than \$10 in four mines; \$10 and less than \$16 in eleven; \$16 and less than \$55 in five; between \$25 and \$40, inclusive, in seven; between \$50 and \$75 in four, and \$80 in one.

In seven mills the cost of stamping per ton was 50 cents and less than \$1; in seven \$1 and less than \$1 50; in five \$1 50 and less than \$2; in four \$2 and less than \$3; in three \$3 and less than \$4.

In thirteen mills the total cost of treatment (which includes crushing, amalgamation, and all the handling after the delivery of the quartz at the mill, and loss of quicksilver,) was \$2 and less than \$3 per ton; in seven mills it was \$1 and less than \$1 50 per ton; in four mills it was over \$1 50 and less than \$2; in two mills it was less than \$1; in five mills it was between \$3 and \$4; and in three mills it was respectively \$4 59, \$6 27, and \$8 31. The cheapest treatment was that of the Badger mine, in Amador county, where the cost was only 67 cents per ton.

8.—RÉMOND'S STATISTICS.

In the months of August, September, October, and November of the year 1865, Mr. A. Rémond, in the service of the State geological survey of California, visited all the quartz mines and mills in operation, or that had been in operation, in those portions of Tuolumne and Mariposa counties lying between the Merced and Stanislaus rivers. The following is a list of the mines and mills thus visited :

No.	Mine.	Mill.
1.	French Mary.....	No mill.
2.	Hope.....	Brichman's.
3.	Victor.....	Victor.
4.	Mount Hope.....	Mount Hope.
5.	Catherine.....	Catherine.
6.	Cranberry.....	Yosemite.
7.	Rutherford.....	No. 6.
8.	Ferguson's.....	Ferguson's.
9.	Cedar.....	Cedar.
10.	Empire.....	Empire.
11.	Mary Harrison.....	Old French Mill.
12.	Malvina.....	New French Mill.
13.	Adelaide.....	Crown Lead.
14.	McAlpine.....	McAlpine.
15.	Louisiana.....	Louisiana.
16.	Schimer's.....	Low Mill.
17.	Funk's.....	Funk's (2) Mills.
18.	Casabon's.....	Casabon's.
19.	Goodwin's.....	Eclipse.

20. Derrick's	Derrick's.
21. Humbug	Humbug.
22. Blue Ledge	Black's.
23. Heslep's	Heslep's.
24. App's	App's.
25. Morse's	No mill.
26. Orcutt's	Orcutt's.
27. No mine	Ryerson's.
28. Eureka	Eureka.
29. Summers's	Summers's.
30. Grizzly	Grizzly.
31. Excelsior	Excelsior.
32. Dagner	Dagner.
33. Mt. Vernon	No mill.
34. Monitor	Monitor.
35. Green's	Green's.
36. Pirate	Pirate.
37. Independence	Independence.
38. Great Eastern	No mill.
39. Comstock	No mill.
40. Soulsby	Soulsby.
41. Independent	No mill.
42. Gilson's, (old mine)	Gilson's.
43. Jackson's	No mill.
44. Calder's	No mill.
45. No mine	Wheeler's.
46. Consuelo	Consuelo.
47. Waters's	Waters's.
48. Watts's	Watts's.
49. Union	Union.
50. Alabama	Alabama.
51. Gilson's, (new mine)	Gilson's, (No. 42.)
52. No mine	Washington.
53. Toledo	Labitour.
54. Raw Hide	Raw Hide.
55. Shanghai	Shanghai.
56. Columbia	Columbia.
57. Patterson's	Patterson's.
58. Valparaiso	Valparaiso.
59. Turner's	No mill.
60. Preston's	Preston's
61. Italian	Occidental.
62. Old Whiskey Hill	Wood's Crossing.
63. Nyman's	Nyman's.
64. John Knox's	No mill.
65. No mine	Widow Hill.
66. Clio	Clio.
67. Shawmut	Shawmut.
68. Josephine	Stetson's.
69. Eagle	Eagle.
70. Italian	No mill.
71. Nonpareil	Duprat's.
72. Burns	No mill.
73. No mine	Cross's.
74. Second Garote	Pacific, (No. 75.)
75. Morkam	Pacific.

76. Kanaka.....	Pacific, (No. 75.)
77. Phoenix.....	Phoenix.
78. Mohrmann's.....	No mill.
79. Kenney's.....	Kenney's.
80. Golden Rule.....	Golden Rule.
81. Golden Rule, (No. 80).....	Golden Rule, (No. 80.)
82. Golden Rule, (No. 80).....	Golden Rule, (No. 80.)
83. Brown's Flat.....	Brown's Flat.
84. Zuckermann's.....	Zuckermann's.

Number.	Average width of lode.	Average yield per ton.	Cost of extraction per ton.	Cost of transportation to mill.	Cost of treatment.	Whether mill is running.	Cost of mill.	Power used; water or steam.	No. of stamps.	Kind of amalgamating machinery.	Cost of roads.	Cost of ditches and flumes.
	<i>Fl. in.</i>											
1	1 6	\$12 00										
2	1	6 00	\$3 00	\$1 00	\$1 50	Not running	\$4,000	Water...	10	†C.	\$500	\$500
3	1	10 60				Not running	3,000	Water...	5	†C. & A.	100	1,000
4						Not running	3,500	Water...	5	C.	100	1,000
5	1 2	32 50	14 00	1 25	3 00	Not running	3,000	Water...	3	C. & A.	1,000	600
6	2 6	18 00	3 50	2 00	3 00	Running	3,000	Water...	5	C.	1,000	1,200
7	1 6	25 00										
8	8	20 00				Running	6,000	Water...	8	C.	500	1,000
9	1	40 00	4 00	2 50	2 50	Running	3,000	Water...	5	C.	90	150
10	1 6	40 00				Ruined				*	None.	None.
11	3	14 00	4 00	1 00	2 00	Not running		Steam...	15	*	330	None.
12	10	19 00	1 75	87½	2 00	Running		Steam...	35	*	150	None.
13	2	6 00	1 00	1 25	75	Not running	42,000	W. & S.	25	*	6,500	18,000
14	1	37 50	4 00	2 00	2 00	Not running	10,000	Water...	8	*	100	200
15	1 6	25 00	4 00	75	2 00	Running	6,000	Steam...	5	*	50	None.
16	1	15 00	3 00	None.	2 00	Not running	6,000	Steam...	8	C.	4	None.
17	1					Not running	5,700	Water...	10	C.	100	500
18	1 6	15 00				Not running	6,000	Water...	8	C.	100	3,000
19	2	15 00	2 00	1 50	1 50	Not running	4,000	Water...	8	C.	1,000	1,000
20	1 6	25 00	12 00	3 00	4 00	Not running	3,000	Water...	6	C.	1,500	500
21		4 00	1 50	50	3 00	Not running	2,300	Water...	4	C.	50	500
22		23 00	5 00	2 00	3 00	Not running	1,500	Water...	4	C.	None.	500
23	10	12 00	2 50	40	2 00	Running	12,000	Water...	10	C.	300	1,200
24	6	18 00	3 00	75	2 50	Running	4,500	W. & S.	10	*	500	
25	1 6	27 50	2 00	50	6 00						50	None.
26	2 6	25 00	2 00	50	6 00	Running	3,000	Water...	5	*	50	100
27						Running	20,000	Water...		*		
28	4	14 00	4 00	None.	2 75	Running	28,000	Water...	20	*		1,500
29	3	15 00	2 50	50	2 50	Not running	6,000	Water...	8	*	5	300
30	7	17 50	4 00	50	6 00	Not running		W. & S.	20	*	2,200	1,200
31	2 6	60 00	3 00	50	1 00	Not running	13,500	Water...	10	*	2,000	500
32	1	40 00	4 50	None.	1 75	Not running	22,000	Steam...	10	*	None.	None.
33	1											
34	1 6	30 00	3 00	None.	2 00	Running	7,000	Water...	5	*	1,000	300
35	1	80 00	10 00	None.	3 50	Running	4,000	Steam...	5	*	None.	None.
36	1	25 00	9 50	50	3 50	Running	10,000	Water...	10	C. & A.		
37	4 6	40 00	4 37½	50	2 75	Running	15,000	Steam...	10	*		None.
38	2	20 00										
39	1 6		2 50									
40	1 3	27 50	8 00	None.	3 75	Running	20,000	Steam...	20	C.		None.
41	10	36 00										
42	1 6	52 50	12 00	None.	4 50	Not running	9,000	Steam...	10	C. & A.	None.	None.
43	6	107 00										
44	1 2											
45						Not running	7,500	Steam...	10	*		
46	3 6					Not finished		Water...	20	C.		
47	9	6 00	2 00	25	1 75	Running	3,000	Water...	6	C.	1,000	600
48	2	180 00	60 00	25	7 00	Not running	800	Water...	3	§A.	None.	2,500
49	2	8 00	1 00	25	1 75	Not running	2,000	Water...	8	C.	50	500
50	25	10 00	1 50	None.	1 00	Running	1,500	Water...	4	C.	150	200
51	1 4	40 00	13 00	1 25	6 00						1,000	None.
52						Not running	1,200	Water...	3	C.	None.	None.
53	3 6	10 00	2 00	None.	2 00	Not running	14,800	Water...	15	C.	1,000	4,000
54	4	25 00				Running		Water...	10	C.	None.	
55	2 6	40 00	5 00	None.	2 00	Running	4,000	Water...	10	C.	None.	100
56	3 6	9 00	2 10	60	2 50	Not running	15,000	Water...	15	C.	1,000	4,000

Number.	Average width of lode.	Average yield per ton.	Cost of extraction per ton.	Cost of transportation to mill.	Cost of treatment.	Whether mill is running.	Cost of mill.	Power used; water or steam.	Number of stamps.	Kind of amalgamating machinery.	Cost of roads.	Cost of ditches and flumes.
	<i>Ft. in.</i>											
57	4	\$8 00	\$2 00	\$25	\$2 50	Not running	\$6,500	Water...	10	C.	\$400	\$1,200
58	2	80 00	.....	None	.....	Ruined	3,000	Water...	6	C.	None	.....
59	2 6	.....	.....	None	None	.....	.....	.....	.....	.....	.....	.....
60	10	.....	2 00	60	1 50	Not running	4,000	Water...	10	C.	300	500
61	6 6	20 00	4 00	None	1 50	Not running	6,000	Water...	12	C. & A.	400	300
62	15	15 00	50	50	1 50	Running	2,000	Water...	4	C.	1,000	1,200
63	4	17 00	3 00	90	1 00	Running	4,000	Water...	10	C. & A.	1,000	1,000
64	1	65 00	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
65	.....	.....	.....	.....	.....	Running	.....	Water...	5	C.	None	.....
66	5 6	15 00	3 00	75	2 00	Not running	5,000	Water...	10	*	1,000	16,000
67	1 6	25 00	2 75	None	1 50	Not running	8,000	Steam...	10	*	2,000	None
68	8	8 00	2 00	None	1 50	Not running	7,500	Water...	.....	*	800	500
69	2	12 00	3 50	50	2 00	Running	11,000	Water...	10	C.	2,500	3,000
70	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
71	.....	30 00	.....	.....	.....	Not running	.....	Water...	5	*	.....	.....
72	4	20 00	1 00	1 12	4 50	.....	.....	.....	.....	.....	.....	.....
73	.....	.....	.....	.....	.....	Running	4,500	Water...	10	*	.....	.....
74	1 6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
75	4	14 00	1 50	40	3 00	Not running	3,000	Water...	5	C. & A.	.....	.....
76	.....	8 00	2 00	2 00	3 00	.....	.....	.....	.....	.....	.....	.....
77	2 6	15 00	.....	.....	.....	Not running	200	Water...	.....	A.	None	.....
78	2 6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
79	5	15 00	.....	.....	.....	Not running	1,000	Water...	.....	A.	None	.....
80	8	40 00	1 00	.....	2 00	Running	2,000	Water...	5	C.	50	400
81	.....	.....	.....	.....	.....	Not running	1,300	Water...	2	*	.....	200
82	.....	.....	.....	.....	.....	Not finished	12,000	Water...	15	*	None	.....
83	6	40 00	11 00	None	1 50	Not running	3,500	Water...	4	C. & A.	None	1,500
84	1 6	40 00	5 00	.....	4 00	Not running	4,000	Water...	4	C.	.....	.....

* The amalgamating apparatus in the mills marked with the asterisk is given below.

† C. copper-plate. ‡ C. & A. copper-plate and arrastra. § A. arrastra.

In numbers 5, 6, 11, 12, 14, 25, 30, and 40 the average yield is obtained by dividing the sum of two figures given by Mr. Rémond. For instance, the average yield of mine No. 5 is given above as \$32 50, whereas Mr. Rémond says the yield is from \$25 to \$40. In the same manner the cost of extraction in No. 37 is given at \$4 37½, whereas Mr. Rémond says it is from \$2 75 to \$6. Mines Nos. 59 and 70 yield coarse gold, which is taken from the rock after pounding it in a hand-mortar.

In mill No. 11 Hungarian pans are used, and in No. 12 Hungarian pans and an arrastra; in No. 13, Patterson's pans and separators; in No. 14, copper plates and amalgamating pans; in No. 15, Salmon's amalgamator and Salmon's separator; in No. 23, copper plates, an arrastra, a Beath's grinder and a Salmon's concentrator; in Nos. 26 and 37, copper plates and blankets; in No. 27, a centrifugal grinder, a Ryerson's pulverizer, a super-heated steam apparatus, and a shaking table; in No. 28, shaking pans and a Chili mill; in No. 29, copper plates, shaking pans, and an arrastra; in No. 30, cast-iron barrels; in No. 31, copper plates and a shaking pan; in No. 32, copper plates, arrastras, and a shaking table; in No. 34, an Ambler's concentrator, a shaking table, and arrastras; in No. 35, copper plates and a Beath's amalgamator; in No. 45, Varney's pans and a concentrator; in Nos. 66 and 67, copper plates and Knox's pans; in No. 71, copper plates, a Farrand's amalgamator, and a settler; in No. 73, Varney's pans and a settler, and in No. 82, copper plates, shaking tables, and an arrastra.

It appears that the average thickness of 21 lodes is from 1 to 12 inches, inclusive; in 20, from 13 to 24 inches, inclusive; of 9, from 25 to 36 inches,

inclusive; of 10, from 37 to 48 inches, inclusive; of 9, from 5 to 10 feet, inclusive; and of 2, over 10 feet.

In 9 mines the average yield is under \$10 per ton; in 22 it is between \$10 and \$19, inclusive; in 14 it is between \$20 and \$29, inclusive; in 14 it is between \$30 and \$49, inclusive; in 3 it is between \$50 and \$69, inclusive, and in 4 it is over \$70. Only one mine has a yield as low as \$4; three have a yield of \$6; 4 of \$8, and 1 of \$9.

The cost of extraction per ton depends, to a considerable extent, upon the thickness of the vein, or, rather, of the pay-rock in the vein. In mine No. 48 the vein is only two inches thick, and it costs \$60 to get out a ton of ore, while in No. 62 it costs only 50 cents to take out a ton of rock from a vein 15 feet wide. In 1 mine the cost of extraction was under \$1; in 8, between \$1 and \$1 90, inclusive; in 14, between \$2 and \$2 90, inclusive; in 9, between \$3 and \$3 90, inclusive; in 9, between \$4 and \$4 90, inclusive; in 7, between \$5 and \$9 90, inclusive, and in 7, \$10 or more.

In 16 mines there is no cost of transportation of ore to mill, the extraction covering that expense; in 23 mines the cost is less than 90 cents; in 7 mines it is between \$1 and \$1 90, inclusive; in 6 it is \$2 or more.

In 1 mill the cost of treatment is 75 cents; in 14 mills it is from \$1 to \$1 90, inclusive; in 19 it is from \$2 to \$2 90, inclusive; in 9 it is from \$3 to \$3 90, inclusive, and in 9 it is \$4 or more. The richer the rock, as a general rule, the more expensive the treatment. The quartz of mine No. 48, yielding \$180 to the ton, costs \$7 for treatment.

Of the mills visited by Mr. Rémond in 1865, 38 were not running, 25 were running, 2 were ruined, and 2 were unfinished. Of those not running, some were standing idle for want of water, others had exhausted the pay-rock within sight and were preparing for further explorations, and the owners of a third-class had no expectation of resuming work, having found it unprofitable, but hoped to sell or intended to move their machinery.

The cost of each of 11 mills was under \$2,900; of 20 mills it was between \$3,000 and \$3,900, inclusive; of 14 it was between \$5,000 and \$9,000, inclusive, and of 14 it was \$10,000 or more.

The number of stamps in 10 mills was 4 or less; in 22 mills, between 5 and 9, inclusive; in 20 mills, between 10 and 14, inclusive; in 10 mills, 15 or more.

The power in 52 mills is water; in 11 mills, steam; in 3, water and steam.

In 31 mills copper plates were used alone for amalgamating, (outside of the battery;) in 3 the arrastra was used alone; in 7, copper plates and arrastra; and in 26, other devices, with or without copper plates or arrastras.

At 25 mills the roads cost less than \$1,000 for each; at 12 mills, between \$1,000 and \$1,900, inclusive; at 4 mills, between \$2,000 and \$2,500, inclusive; at 1, \$6,500; and at 15, nothing.

At each of 21 mills the ditches and flumes cost less than \$1,000; at 13 mills the cost was between \$1,000 and \$1,900, inclusive; at 3, between \$2,000 and \$3,900, inclusive; at 3, \$4,000 or more; and at 14, nothing.

The county assessor of Nevada county, California, reported the statistics of the quartz mines and mills of Grass valley and Nevada for the year ending October 1, 1866, as follows:

List of quartz mines at Nevada City and Grass valley.

Name of company.	No. of men employed.	Engines.	Stamps.	Tons of rock.	Average per ton.
GRASS VALLEY TOWNSHIP.					
Eureka Mining Company	175	3	20	11,400	\$50
Union Hill	100	3	20	1,000	40
Cambridge, (new)	75	3	10	.....	40
Allison Ranch	175	5	12	7,000	30
Ione	70	2	10	3,000	20
Forest Springs	6	.....	10	4,500	50
Empire	80	4	36	6,000	45
Hewston Hill	65	3	.....	1,500	100
New Orleans Mill	5	1	8	1,700	Cust.
Norambagua	100	1	.....	.....	50
Lone Jack	25	1	.....	.....	40
Golden Rock, (new)	10	.....	.....	.....	20
Atlantic Cable, (new)	4	.....	.....	.....	20
Wisconsin	40	1	.....	1,000	50
Laton Mill	5	1	8	5,000	Cust.
Lucky	50	2	15	5,600	25
Ophir Hill, (new)	20	2	.....	.....	.....
Black Ledge .....	.....	1	.....	.....	30
Sebastopol	4	1	12	2,000	Cust.
Hartery Mine	50	2	8	4,000	20
Central, (new)	4	1	.....	.....	.....
Gold Hill Mill	6	1	20	2,000	Cust.
Gold Hill Mine	10	1	.....	.....	.....
Frankfort	10	.....	.....	200	14
Perrin's Mill	15	.....	5	400	8
Inkerman	10	.....	.....	100	25
Lamarque	4	.....	.....	.....	40
Shanghae	20	.....	.....	200	60
Almaden	15	.....	.....	500	25
Independent, (new)	4	.....	.....	.....	.....
Pike Tunnel, (new)	10	.....	.....	.....	.....
Burdett	10	1	.....	.....	.....
Badger	20	1	.....	.....	.....
Osborn Hill	30	3	15	.....	100
Spring Hill	20	1	.....	.....	.....
Larimer Mill	4	.....	8	.....	1,000
New York Hill	40	2	.....	500	60
Rocky Bar	60	4	16	3,500	28
North Star	140	3	16	7,000	30
Merrimac	25	2	10	2,000	20
Coe Mining Company .....	.....	2	.....	.....	.....
Town Talk Mining Company	10	1	8	.....	.....
Redan	35	1	.....	.....	.....
Betsey .....	.....	1	.....	.....	60
Alta Hill .....	.....	1	8	.....	.....
Slate Creek .....	.....	.....	.....	.....	20
Smith Mining Company .....	.....	.....	.....	.....	40
Murphy Mining Company	5	.....	.....	.....	.....
Essex	15	1	.....	.....	.....
Kate Hayes .....	.....	1	.....	.....	.....
Idaho .....	.....	1	.....	.....	.....
Pacific Ore Company	5	1	5	.....	.....
Stockbridge .....	.....	1	.....	.....	.....
Byers's Quartz Mill	2	.....	4	.....	.....
Shamrock Company	5	.....	.....	600	25
Omaha	4	.....	.....	60	22
Hill and Farnam Metallurg	4	.....	.....	.....	.....
Total	1,601	67	284	71,420	.....

List of quartz mines, &c.—Continued.

Name of company.	No. of men employed.	Engines.	Stamps.	Tons of rock.	Average per ton.
NEVADA TOWNSHIP.					
Palmer's Mill	4	1	4	.....	Cust.
Banner	40	2	10	.....	.....
Nevada Quartz Mining Company	30	.....	12	.....	\$6
Providence	8	1	12	1,200	8
Oriental	4	1	8	800	Cust.
Sneath & Clay	55	3	12	6,000	.....
New York	35	3	.....	3,000	.....
Murchie Mill	13	.....	8	.....	.....
French Mill	4	1	6	600	Cust.
Forest Hill Mill	4	2	5	.....	.....
California, (new)	20	1	.....	.....	30
Wigham Mill .....	.....	2	20	.....	.....
Cornish Mill	4	.....	6	100	30
Pennsylvania .....	.....	2	4	.....	.....
Willow Valley .....	.....	1	.....	.....	.....
Mohawk .....	.....	1	.....	.....	.....
Gold Tunnel .....	.....	1	6	.....	.....
Oro Fino .....	.....	.....	4	.....	.....
Cunningham .....	.....	1	.....	.....	.....
Federal Loan .....	.....	1	2	.....	.....
Manzanita .....	.....	.....	15	.....	.....
Stiles's Mill	6	.....	8	2,500	25
Total	230	24	142	14,200	.....

Grass valley is the most productive gold-quartz mining district in the world. The annual yield of an area drawn by a radius of four miles is \$3,500,000. The number of laborers employed in the mines and mills is 2,000, showing an average yearly production for each person of \$1,750, and the average yield of the rock worked is \$30 to \$35. The lodes are narrow, none of them exceeding seven feet in width, and most being less than a foot. They contain much pyrites, and this fact contributes with the narrowness of the veins to make the average expense of extraction and reduction high—about \$15 per ton. Some of the works have been sunk to a depth of 400 feet, but most of the pay-quartz is obtained within 200 feet of the surface.

9.—PULVERIZATION OF QUARTZ.

The main processes of quartz mining are extraction, crushing, and amalgamation. The extraction of auriferous quartz from the vein is like that of ores generally. Any person familiar with copper mining can in a few days learn to be a good gold miner. The quantity of copper ore can usually be discovered by a glance, but in auriferous quartz it is often necessary to pulverize a piece of the quartz, and wash the powder in a spoon or little basin to see whether it will pay to extract. The cost of tunnels and shafts for opening mines in such rock as is usually found about the auriferous lodes is from ten to fifteen dollars per lineal foot.

Ninety-five per cent. of all the crushing in California is done with stamps. The stamp is a block of iron, weighing from 300 to 1,500 pounds, fastened to a wooden or iron shaft, usually iron. A battery consists of several stamps standing side by side, and in most mills the number of stamps is five or a multiple

of five. The stamps are successively lifted by machinery, and then allowed to fall on the quartz. The height to which they are raised is from ten to fifteen inches, and each stamp falls from forty to eighty times in a minute. It is calculated that each stamp should crush a ton of quartz of ordinary quality in twenty-four hours. The mills usually run night and day. Of course, the amount of quartz crushed depends to a considerable extent on the hardness of the rock, the weight of the stamp, the height of the fall and the rapidity of the blows.

The fineness to which the rock must be pulverized depends on circumstances. The particles of gold may be very fine, so that the quartz must be reduced to an impalpable powder before they can be liberated; but if the particles of gold and the grain of the rock are coarse, or if the pulp is to go through a grinding pan, the quartz may be allowed to escape when many of the particles are as coarse as sea-sand, or even coarser. The battery has on one side a screen of wire-cloth, or perforated sheet iron, with apertures of the size of the largest particles that must be permitted to escape. A steady current of water runs through the battery, so as to carry away the quartz dust as soon as it is fine enough. The sheet-iron screens are punched with needles, and are known by the numbers. No. 7 screen is punched with a cambric needle; Nos. 3 with a darning needle.

In Grass valley most of the mills use Nos. 3 and 4 screens; elsewhere Nos. Nos. 4 and 5 and 6 are preferred.

A multitude of crushers have been tried to break up the quartz before it is given to the stamps or other pulverizing apparatus, but the number in use is very small. Those principally in use consist of two heavy iron jaws, which are wide apart at the top, and close together at the bottom, and as they work back and forth, the quartz is smashed between them. The quartz is usually in pieces not larger than goose eggs when delivered to the battery, and it is broken this size either by sledge-hammers, or by a large stamp, kept for the purpose of breaking up the large stones.

The musket-ball pulverizer has been tried as a substitute for stamps, and the report is favorable, but the trial has not been sufficient to command the confidence of miners. It is an iron barrel which revolves twenty-four times per minute on a longitudinal, horizontal axis. Inside of the barrel are a number of chilled iron balls weighing an ounce each. The quartz is introduced in particles not larger than a grain of wheat, and in two hours it is reduced to an impalpable powder.

Another pulverizer, that has been tried without attaining favor, is an iron star or wheel without a rim, which makes 1,000 or 1,500 revolutions per minute in an iron casing. The quartz is thrown with great force by the arms against the casing and is dashed into fragments by the concussion. The casing is so made with little offsets that the quartz strikes at right angles.

10.—AMALGAMATION OF GOLD.

Much of the gold is caught or amalgamated in the battery. The stamps fall into an iron box or mortar, into which an ounce of quicksilver is thrown for every ounce of gold supposed to be in the quartz. If the rock is crushed fine in the battery, two-thirds or three-fourths of all the gold saved may be caught there, leaving one-third or one-fourth that escapes through the screen.

After leaving the battery, the pulverized quartz in most mills runs down over copper plate which has been washed over with diluted nitric acid, and then rubbed with quicksilver till the whole surface is covered with amalgam. The particles of gold running over this surface adhere and form amalgam; and when the plate is covered with gold it operates far more effectually than when the quicksilver is fresh. Gold unites more readily with gold amalgam than with pure quicksilver. The copper plate, which is the bottom of a trough or sluice, may be fifty or a hundred feet long. Küstel in his book on *Nevada and Cali-*

*for*nia processes of silver and gold extraction (page 16) says, copper plates as a means of amalgamation are "very imperfect and mostly abandoned." Imperfect they may be, but they are still used in most of the quartz mills of the State; and in some of the best, or at least in some of those which produce the largest amounts of bullion.

Between the copper plates in many mills are troughs in the bottom of which are laid coarse blankets, or gunny-bag, or even cow hide with the hair on and the grain against the stream. Gold amalgam and sulphurets are caught in the rough surface of the blanket, gunny-sack, or hide, which must be taken up and washed at intervals, which are usually not more than half an hour long.

The shaking table used in amalgamation is a long box with transverse divisions containing quicksilver. It is set horizontally and is shaken longitudinally, receiving from 100 to 200 short jerks in a minute. By these jerks the pulp is thrown back upon the quicksilver.

At the Hayward mine the pulp runs out from the amalgamating battery over a wide pine board, across the grain, and the appearance of the amalgam on this board is supposed to give the best indication whether the proper quantity of quicksilver is being used in the battery. If too much, most of the amalgam runs off, and the little caught on the board is in brilliant round globules, and if not enough, the amalgam has a rusty look.

The arrastra is extensively used for amalgamating, and it has the merits of cheapness, grinding well, adaptability to any place, kind of power, economy of water, and facility of working; but it is slow, and is therefore not in favor in large mills.

Atwood's amalgamator, used in many mills at Grass valley, consists of level troughs, with quicksilver at the bottom; and over the troughs are horizontal revolving cylinders with projecting spikes, which stir up the quicksilver and the pulp as the latter passes over the trough.

Pans are coming into use slowly in the gold quartz mills—at least in some of the new ones lately erected in Grass valley. Küstel says of pan amalgamation that it is "at present the most perfect gold manipulation," and by it "gold is extracted as close as ninety-five per cent. of the fire assay"—that is, if there are no sulphurets. (*Nevada and California processes*, page 63) The general opinion is that from twenty to forty per cent. of the gold is lost in the ordinary processes. The pans used are mostly like those that will be described as being used in the silver mills of Nevada. There is, however, one pan not used for silver reduction that has found some favor with gold miners. This is Baux and Guied's pan, which has a tight fitting cover. The pulp runs constantly with a stream of water down into the pan through a tube at the side, and the light matter after being ground runs up and out through a tube in the centre. There is thus a constant feed and discharge, while in nearly all the other pans a batch of ore is put in and worked, and then taken out to make room for another batch.

The Ryerson amalgamator is an air-tight chamber in which quartz that has been crushed very fine by some dry process is subjected to the influence of super-heated steam for half an hour as a preparation for the quicksilver, which is then introduced and converted by the heat into a vapor, in which form it is supposed to pervade the pulp and get access to all the gold. Cold water is injected to condense the quicksilver, and the pulp is drawn up to be separated.

11.—SULPHURETS AND CONCENTRATION.

But after the pulp has passed through all the amalgamating processes customary in gold quartz mills, it is found that in many ores much of the gold is lost because of the presence of sulphurets of iron and copper. The presence of the sulphurets appears to chill the quicksilver and prevent it from taking hold of the gold, and many particles of gold appear to be enveloped by them. The

gold can be separated from the pyrites, but heretofore the separation has been affected mainly in establishments specially devoted to that purpose, and not in the ordinary mills. It is customary to save the sulphurets and sell them to the sulphuret works, or keep them until there may be a sale for them. But for the purpose of saving them, they must be separated from the earthy and rocky matter in the pulp, and this is called concentration. The sulphurets have a specific gravity of 4.5, while quartz has a specific gravity of 2.6. By this difference in density, it is possible to separate the two.

There are several patent concentrators in use, all made of iron, and shaped like shallow pans. The one more used than any other has a bottom that rises from the edge to the centre, where there is an outlet through which the lighter material runs away. This outlet is, of course, not so high as the rim. This pan turns on a perpendicular axis, and is shaken back and forth by two hundred short jerks per minute. A hole in the side is left open for the escape of the sulphurets, which flow out in a steady stream; and lower down is another hole, which is opened when the heavier matter is to be taken out.

One of the best cheap concentrators is a long and wide rocker with a flat-bottom and a slight inclination. A boy can work one of these concentrating rockers for a large mill, and the cheapness of the machine and the slight power required for it are great advantages. The sulphurets are arrested by cleets in the bottom of the rocker, and need to be taken out at intervals of half an hour.

Any sluice serves also, to some extent, for concentration.

12.—CHLORINATION.

The most approved method of reducing auriferous sulphurets is chlorination. As a preparation for this process the sulphurets are roasted. They are placed in an oven brought to a red heat, retained in that condition for about six hours, or until the smell of sulphur has disappeared. After they have cooled the sulphurets are sprinkled with water, shovelled over, and put into wooden tubs or boxes, so made that chlorine gas can be introduced at the bottom and made to rise all through the mass. The tub or box is kept closely covered, and chloride of gold, which is soluble in water, is formed. After the lapse of four or five hours water is let in, and the chloride of gold is dissolved by it; the solution is drawn off into glass vessels, and some sheets of iron are put in; the chlorine unites with the iron, and the gold falls as a purplish-brown powder to the bottom of the vessel.

13.—GOLD IN LOOSE STATE.

Gold mines are divided into the two main classes of quartz and placer, but at Whiskey Hill, near the town of Lincoln, in Placer county, about thirty miles from Sacramento, a large mass of loose slate rock is found, containing considerable pyrites and about six dollars of gold to the ton. The material is so soft that eight tons can be crushed by a stamp in a day. It is supposed that below the water-line a vein of hard auriferous copper ore will be found. The mass of auriferous slate in the hill is large, and the mine is considered very valuable, one-half of it having been sold for \$175,000. Similar bodies of auriferous slate mixed with clay are found at Lander's ranch, Placer county, and at Telegraph City, in Calaveras county.

14.—PLACERS.

* Placer mining is decreasing every year. Every month witnesses the exhaustion of some rich placer district, or its exhaustion at least for the present. It may be that in the future, when laborers can be employed for fifty cents per day, claims which cannot be worked now will be in demand.

There are large bodies of gravel that contain just gold enough not to pay,

at the present rates of water and labor, and it is evident that both must be cheaper after the lapse of a few years.

But although land might pay the miner, it may pay the farmer still better, and the State should give every preference to the latter, who beautifies and enriches the soil, while the miner destroys it.

Notwithstanding the continuous decline of the placer mining interest for ten years past, there are yet, and long will be, very rich placers. Some of the deposits of gold in clay and gravel are so protected that a score of years may elapse before they can be reached. On the sides and near the base of the Sierra Nevada are innumerable hills that are destined to come down before the hydraulic pipe of the miner. One of these hills commences near the town of Yuba City, in Nevada county, and extends sixteen miles up the mountain side, with a height of two hundred feet, and a width of a mile; and there is reason to believe that the foundation throughout its length is a bed of rich auriferous cement.

15.—CEMENT MINING.

The cement deposit is a stratum of very tough clay enclosing gravel and boulders; and the clay is so stubborn that it will not dissolve in a sluice-box, and it has been necessary to crush it in mills. The material is heterogeneous; the clay is soft under the stamp; some of the gravel is hard, and other soft. The gravel is not auriferous, but it must be crushed, so as to permit the crushing of the clay. Several attempts have been made to separate the stones from the remainder of the mass without crushing them, but without success. As the stones contain no gold, all the power spent in crushing them is lost; but at present there is no other way, nor is it probable that any mode of separation can be devised. One stamp will crush from four to six tons of cement per day, and the cement stamps are only about half as heavy as quartz stamps. The pulverization is not so fine as in quartz; the sheet-iron screen through which the cement pulp escapes is punched with holes that vary from a sixteenth to an eighth of an inch in size. The particles of clay that escape are so small that they are easily dissolved in the water. The gold is caught in the battery, and that which escapes through the screen is caught in the sluice. It is a singular fact that many of the hills of the present day stand upon the beds and precisely indicate the course of the streams of a former geological epoch. The existence of a layer of basalt or volcanic rock along the top of these hills indicates that currents of lava followed the streams, and after hardening protected the gravel under them from being washed away by the great aqueous agencies which wore down the rock and earth in the neighborhood to a depth of more than two thousand feet in some places. So common are auriferous channels under the hills that the term "rim rock" has long been in common use among miners to indicate that part of the bed rock which separates the lowest portions of the channel from the outside of the hill on both sides. In some districts it is taken for granted that if a tunnel is cut into a basalt-covered hill at the proper elevation the channel of the ancient river will be found.

16.—HYDRAULIC MINING.

Most of the placer gold of California is obtained by hydraulic mining; the most profitable placer claims, as a class, are those worked by the hydraulic process; and the most prosperous mining counties are those which have the largest areas suitable for piping. The yield in some of the claims is as \$100 per day to the hand, and occasionally twice or thrice as much, but the average is probably \$10 or \$15, of which about half goes to pay for wages, water, and other expenses.

17.—RIVER MINING.

Nearly all the river beds have been washed, but they are washed over and over again. The rivers are to be regarded as large sluices into which all the fine gold that escapes from the adjacent mining operations is carried and deposited; and thus there are some river beds that pay for a short time to wash every year. The yield, however, is not large, and miners take to the rivers only as a last resort.

In Trinity and Klamath counties, California, there is a large area of ground that is comparatively undeveloped; and that is the best region in the State for the miner who wants to work on his own account, and on a small scale. The country is rugged, the climate wet and cold, the roads bad, and there is some danger of Indians; but on the other hand there is much gold to reward the skilful miner who is willing to face the hardships and dangers of the place.

18.—THE HAYWARD QUARTZ MINE.

The Hayward claim is one of the notable mines of California. It is situated on Sutter creek, Amador county. The vein is peculiar in its character.

The quartz is in places almost a powder, and is mixed with slate and clay. The length of the ground worked is about one hundred and sixty yards, and both north and south the vein seems almost to disappear. The average yield of the rock is not high, although some very rich and beautiful specimens have been found in it. The mine has been worked since 1851, and the rock has always given a good average yield, but it is during the last eight years that the mine has risen to much importance. The total product is stated to be \$6,000,000.

The yield per ton and the width of the vein have been gradually increasing, and now at a depth of 1,200 feet the former is \$25, and the latter twenty-five feet. The works are by far the deepest in the State, and as the mouth of the mine is estimated to be nine hundred feet above the sea, the lowest works must be three hundred below the surface of the ocean. Professor Whitney speaks thus of the mine, in the first volume of his geological report, written several years ago: "The vein is enclosed in a dark-colored, rather soft argillaceous slate. In the Eureka the mass of vein stone is from eight to twenty feet wide, but in the Badger it widens out suddenly to forty feet.

"The length of ground worked in both mines is about four hundred and seventy feet; to the south of the Badger shaft, which is on the south end of the mine, there is hardly any quartz to be seen, and the lode, which is eight feet wide on the north side of the Eureka, pinches out very rapidly in that direction, so that the body of quartz worked is very short in proportion to its great width, being almost a column, or chimney, rather than a vein. At the junction of the two veins there is a large mass of slate and soft clay mixed with a little quartz, which is often in a state of fine powder. * * * *

"Few if any mines in the State have been more uniformly and permanently successful, while the yield of gold to the ton of rock stamped is quite low."

19.—SIERRA BUTTES MINE.

The Sierra Buttes quartz mine is one of the most noted and most valuable mines in the State. It is situated at an elevation of 6,000 feet, on the southwestern slope of the Downieville Butte, and twelve miles from the town of Downieville. There are two lodes, but most of the auriferous rock is obtained from the cliff ledge, which averages about twenty feet in width, and of this about eleven feet in thickness on an average are worked. In some places the pay streak is only two feet wide, in others seventeen. The average yield of the quartz is about eighteen dollars per ton.

The quartz is bluish white in color, and is very hard when first taken out,

but it crumbles after having been exposed to the air for a time. The gold is disseminated in small particles through the rock, and in most of the quartz the metal is scarcely visible to the naked eye. There are few sulphurets, and therefore amalgamation is easy. About two-thirds of the gold is caught with quicksilver in the batteries, after leaving which the pulverized quartz is carried by water over about a hundred feet of copper plate covered with quicksilver, and then over a blanket, below which are some arrastras which are owned by different parties who pay for the tailings and the water.

The following is an authentic statement of the annual yield, expenses, and dividends since the mine came into the possession of the present company :

Years.	Yield.	Expenses.	Dividends.
1857.....	\$51,000	\$15,000	\$36,000
1858.....	55,000	15,000	40,000
1859.....	88,000	20,000	68,000
1860.....	120,000	37,000	83,000
1861.....	198,000	48,000	150,000
1862.....	166,000	54,000	112,000
1863.....	156,000	57,000	99,000
1864.....	90,000	75,000	15,000
1865.....	196,000	64,000	132,000

No assessments have ever been levied. The produce of the mine has paid for all the improvements. The yield in 1866 is better than ever ; and the character of the lode has remained almost the same wherever they have worked it, without notable difference between the surface and the deepest workings.

20.—THE ALLISON MINE, &c.

The Allison mine at Grass valley is one of the richest and most productive in the State. It has been worked with almost uniform profit for ten years. The average thickness of the lode is about eighteen inches, and the rock yields from \$30 to \$150 per ton. According to the best information obtainable by the State geological survey 14,858 tons were reduced between March, 1857, and December, 1861, and the average yield was \$50 per ton or \$942,900 in all. Since the summer of 1862 the mine pays better than before. The lowest workings are nearly 500 feet deep, and the lode at that depth is three feet wide, with rock that averages \$100 to the ton. The owners refuse to give any statements of their receipts or expenditures, but the men employed in the mill say the yield is \$40,000 per month, or \$400,000 for ten months' work in a year ; and of this sum two-thirds or more is clear profit. The claim has been worked for a length of about 1,400 feet.

The Norambagua mine at Grass valley has yielded more than half a million dollars in the last five years. The average yield of the ore is about \$75 per ton. The deepest workings are 500 feet from the surface, and drifts have been run 1,000 feet along the course of the lode.

The following is a statement of the operations of the Eureka mine at Grass valley for the year ending September 30, 1866 :

Receipts from bullion.....	\$531,431 41
Total expenditure at mine.....	192,648 44
Dividends.....	90,000 00
Net profits.....	368,042 18
Tons of quartz crushed.....	11,375 00
Average yield per ton.....	47 15
Average cost per ton crushed.....	14 80
Average cost of 1,500 tons.....	18 00
Average cost of remainder per ton.....	13 75

The following is a statement of the operations of the same mine for four months ending September 30, 1866 :

Receipts from bullion.....	\$248, 072 55
Dividends.....	90, 000 00
Total expenditure at mine.....	69, 430 04
Net product of mine.....	187, 751 72
Tons of quartz crushed.....	4, 227 00
Average yield per ton.....	60 33

The Rocky Bar claim on Massachusetts Hill, near Grass valley, has produced about \$1,500,000 in the last six years.

The Princeton vein, in Mariposa county, has yielded \$2,000,000 within the last twelve years, but lately it has produced very little, and for a time work on it was abandoned.

21.—THE SMARTSVILLE BLUE GRAVEL COMPANY'S MINE.

The richest placer mine in the State is that of the Blue Gravel Mining Company at Smartsville, in Yuba county. The yield since March, 1864, has been as follows :

1864. March	\$9, 381	1865. May	\$24, 000
May.....	24, 275	June	50, 118
June	7, 000	August	24, 679
July.....	22, 350	September	46, 500
August.....	3, 485	October	26, 660
September.....	49, 440	December	37, 000
October	24, 669	1866. February.....	23, 746
December	45, 093	April	43, 423
1865. January.....	2, 723	June.....	23, 880
February	24, 051	August.....	42, 494
March	44, 981		
		Total.....	599, 948

The gold is obtained only when the sluice is cleaned up ; and the cleaning up occurs sometimes at intervals of two or three months, and there is no yield for the intervening months. The claim will continue to pay for many years, and probably it will be richer than ever, for the miners have not yet reached the bed rock. The claim covers an area of about a hundred acres on a long hill or ridge that stands over the bed of an ancient stream. The hill is made up of numerous layers of gravel, sand and boulders, with a rim of rock at the bottom on each side of the hill. To get access to the auriferous deposit it was necessary to cut a tunnel 1,700 feet long through the rim rock. This work was commenced in February, 1855, by the company, which had a capital of \$20,000. This sum was soon expended in cutting a tunnel, which in places cost \$100 per lineal foot, and then money was borrowed and the debt ran up gradually to \$60,000, so that at the end of 1859 the company had spent \$80,000 and nearly five years of hard labor, with no certainty of any return. In 1857 they began to wash some of the gravel in the higher portions of the claim, and the expense was greater than the yield for more than two years ; but in 1860 this washing commenced to yield a profit, and in three years more the debt was reduced from \$60,000 to \$20,000. In December, 1863, the tunnel reached the pay-dirt, and then it was necessary to sink an incline down from the top of the hill so that the dirt could be carried off by the water through the tunnel. It was a difficult matter to open this incline to so great a depth and get it into such condition that there was no danger of the earth falling in and choking up the channel or kill-

ing the miners ; but at last this was accomplished, and since then the company have reaped a rich harvest of gold. They are using 500 inches (miners' measurement) of water per day, under a head pressure of 150 feet, at a cost of \$75 per day. They use 125,000 pounds of powder annually in blasting to loosen the earth so that the water can wash it away readily. A steady current, eight inches deep and three feet wide, of mud, estimated to contain four inches in depth of solid matter, runs through their sluice, and they use three tons of quicksilver at one time to catch their gold. They have sluiced away an area of twenty acres, 100 feet deep, and they have built in all four miles of fluming, much of which is not now in use. They expended \$80,000 on their first tunnel and have commenced another lower down. It will cost \$75,000 and will require three years for completion.

The flume now in use is 3,000 feet long, and is paved alternately with wooden blocks set on end and flat stones set on the edge. The sections of block paving extend across the flume, and seventeen inches longitudinally, and the sections of stone paving are two feet long. The flume has an inclination of six and one-half inches in twelve feet.

This company is the only one which has mined steadily for ten years in the Smartsville district, with a profit for the whole period. Many other companies have spent immense sums of money and obtained no return. Others have made a profit for a year or two, but the general result has been failure. The Blue Gravel company succeeded only by the extraordinary and, it might almost be said, the unbusiness indulgence of their creditors, who might at any time for a period of seven years have come and taken the claim. As late as 1862 the shares in the company were selling at the rate of \$11,000 for the whole claim. When the enterprise, the patience, the perseverance, the privations, the risks of failure, the hard labor of nine unprofitable years, the faithful devotion of the stockholders to one another, and the generous trust of the creditors are considered, it must be admitted that the Blue Gravel company have abundantly merited all their success. Many other claims of less value have cost their owners proportionately as much in money, labor, and patience.

22.—PROFITS OF MINING GENERALLY.

The business of mining has not been in any branch a source of much profit to the majority of those who have undertaken it in California. The proportion of California miners who have made fortunes within the last fifteen years is much less than that of the Illinois farmers. One of the chief sources of wealth in the United States east of the Rocky mountains has been the increase in the value of land, but in the mining districts hitherto there was little land to which a fee-simple title could be obtained. The largest income in the State of 1865 is that of Jules Tricot, who made in that year \$182,511 by quartz mining and the sale of quartz mines, and the third largest is that of James P. Pierce, who made \$102,011 in placer mining. When, however, we come to examine the incomes of the miners generally, we find that they are small.

The following table shows the number of adult white men in some of the mining counties, and the number of those who pay tax on an income of \$1,800 or more, reckoned in legal tenders :

Counties.	No. white miners.	No. incomes \$1,800.
Del Norte.....	250	None.
Klamath.....	700	5
Trinity.....	700	10
Siskiyou.....	2,500	24
Shasta.....	1,000	17
Plumas.....	1,000	9
Butte.....	1,000	13

Counties.	No. white miners.	No. incomes \$1,800.
Sierra	2,500	45
Nevada	3,000	148
Placer	1,800	66
El Dorado	2,000	33
Amador	1,200	18

An examination of the lists shows that most of those who have these incomes are not miners, and that the proportion of those who have large incomes is greater in the agricultural districts and in the towns than in the mines. As a matter of curiosity, the list of incomes of Nevada county for 1865 is here appended, with the names of those who derive their incomes from quartz marked with an asterisk, and those who derive their incomes from placers, marked with a dagger.

NEVADA COUNTY.

Anderson, John [~]	\$2,063	Findler, Thomas*	\$13,051
Alger, Moxton†	6,341	Faulkner, James	3,090
Alexander, D†	1,000	Ford, Marin*	3,546
Abbey, Richard†	2,515	Fabey, John*	9,561
Belden, David	4,868	Fogarty, Park*	40,058
Bates, C. M	2,580	Furtt, Simon	1,900
Bigelow, E. W	2,400	Furtt, Daniel	1,900
Bigelow, E. W	1,689	Felton, D†	1,913
Byrne, James	2,490	Gregory, A. B	1,900
Brady, A. B*	4,708	Gepeard, George	5,639
Binkleman, D	2,064	Gad, B	1,898
Bennett, John	2,058	Galaway, Phillip*	3,544
Boury, G†	3,756	Greenwell, J. W†	2,525
Brown, J. H.	7,274	Greenwell, S. J†	3,275
Baylis, J. H*	2,234	Gaskill, J. L†	7,546
Black, R. Ct.	1,804	Hawley, T. P	4,298
Bell, V. G†	2,138	Hinds, J. W	3,131
Colley, James	1,983	Hamilton, M. S	5,960
Crawford, W. H	4,124	Hunt, R. M	4,825
Clark, Jonathan	4,291	Hodue, Thomas	2,458
Cashin, John	5,020	Hasken, William*	2,393
Cohn, Jacob	1,898	Hunter, John R†	1,328
Coleman, Edward†	7,790	Henry, Samuel T†	2,335
Coleman, J. C*	7,768	Henderson, H	2,000
Corbett, E. S	2,963	Henry, William†	2,294
Caldwell, J. J.	1,800	Johnston, Peter	2,528
Cliff, William*	5,280	Johnston, John	2,528
Connolly, Ellen*	33,119	Judson, Orin†	3,428
Corbett, John*	4,736	Judson, Harw'd†	3,558
Colbert, Michael*	4,735	Kidd, George W*	3,749
Curmack, H†	4,619	Keeney, George	2,275
Crull, S. M†	4,799	Leavitt, C. C	5,079
Crull, J. St.	5,362	Loutgenhisee, W*	6,025
Cadwalader, N†	27,190	Larimer, John*	3,150
Deal, M. S	2,400	Lee, S. W†	1,834
Davenport, T. T	5,120	Lloyd, Thomas*	3,200
Delano, A	7,500	Leech, Charles*	4,900
Dorsey, S. P	2,150	Laney, Thomast	13,784
Dibble, A. B	3,654	Mackie, H	8,731
Daniel, William*	6,024	Marvillus, E. P†	2,609
Dornin, George D	3,410	Marsh, M. L	2,650
Dikeman, S. H†	2,032	McFarland, T. B	5,260
Enright, Michael†	2,738	Marsh, Charles	4,475
Edwards, J. R*	2,654	Mason, James B	2,523
Eddy, A. H†	3,138	Maguire, Thomas	3,526
Everett, Henry†	13,829	McDonald, G†	1,900
Effinger, John H†	3,400	Mull, E. W†	1,960
Ennis, Frank. †	2,875	Morian, F*	7,908
Finninger, R	3,420	Northy, Et	10,610
Farquhar, R. H	5,400	Nathan, B*	2,113
Fricot, J*	182,511	Nickell, G. W	2,888

O'Connor, M. P	\$3,548	Stone, J. P	\$1,936
Pierce, A*	6,900	Smith, C. C	1,963
Perry, S. E	1,850	Swan, A. B†	6,889
Phillips, Henry	5,713	Shardin, Charles†	1,893
Pralus, A*	89,681	Spooner, G. C†	8,019
Pollnier, Henry†	3,150	Smith, Francis	3,275
Quine, Patrick†	14,313	Smith, Jacob	1,900
Richards, F	1,833	Sheets, L. F†	2,840
Roads, W. H*	5,168	Tisdale, W. L*	4,884
Ripert, S*	80,096	Torson, O	3,104
Roberts, D. G*	31,400	Tower, A. D	3,806
Remington, M. L*	2,278	Tully, R. W	2,840
Rosmussen, P*	2,434	Turner, G. E	1,900
Rosendale, C. Et†	4,966	Trenberth, J*	3,428
Spence, E. F	2,650	Thomas, John†	2,025
Sargent, A. A	5,321	Villian, B†	4,363
Swithenback, J	2,465	Whartenby, J†	25,165
Scaddin, Henry*	2,951	Werte, E. G	2,494
Silvester, H*	4,000	Watt, Robert*	42,890
Shaffer, George	2,453	Watt, William*	42,794
Smith, C. W	2,400	Whiting, L. L*	2,750
Smith, John	2,588	Williams, Et†	8,575
Smith, Robert	2,588	Weil, A	2,960

This list is marked by a gentleman well acquainted in the county, but a few of those whose names are not marked may be miners. It appears that out of 148 names, 42 are those of quartz miners and 40 of placer miners. It must be remembered, however, that Nevada is the most prosperous and the most productive mining county in California, and that the proportion of large incomes among the miners is greater there than elsewhere.

23.—DIFFICULTY OF GETTING GOOD CLAIMS.

A fact which should never be overlooked on the Atlantic slope by persons who speak of mining is, that a good claim cannot be had by merely making an effort to get one. It costs as much effort generally as it costs to get a good farm, or more. If the claim is open and its value is established, it can only be bought at a high price. If it is not open, years may be spent in opening it, and then it may prove to be barren at last. That has been the experience of thousands. A list of the expensive tunnels and shafts undertaken in California and Nevada would include numerous failures after years of time and scores of thousands of dollars had been devoted to the labor. These things are not written, because few want to publish their own failures or to read about those of others; and a number of those who own mines famous for their rich yields had to struggle along for years, barely paying expenses and exposed to the jeers or the pity of their acquaintances for their obstinacy in sticking to claims that could never, it was said, be made to pay. It is unjust to the miner to assume that he is taking the public property without compensation. In most cases he has more than paid for it by his labor, and although it may not yield him a good income, it is no more than a fair return for his enterprise and industry, and he should be allowed to enjoy it as a proper encouragement to others to devote themselves to the development of other mines. Many, indeed, think that even with unrestrained liberty to take the precious metals from the public lands, and with entire exemption from taxation, the pay of the miner is less than that of any other equally industrious and intelligent body of laborers in the country.

24.—COMSTOCK LODGE THE MOST PRODUCTIVE IN THE WORLD.

Although some rich argentiferous veins have been discovered in California, Idaho, and Arizona, they have not been developed sufficiently to enable us to say much of them; and our remarks on the condition of silver mining on the coast must be based chiefly upon the business as conducted in Nevada. During

the last three years there has been no increase in the production, but the general condition is very satisfactory. The Comstock lode is now the most productive mineral vein in the world. A strip of land six hundred yards wide and three miles long yields \$12,000,000 annually. There is no parallel to that in ancient or modern times. The other richest silver mining districts of the present century, such as Guanajuato, Zacatecas, Sombrerete, Durango, Chihuahua, Alamos, Real del Monte, Potosi, Cero Paseo, and Chañarcillo, do not produce more than about \$20,000,000 each annually, and the Comstock lode is now contributing more silver to the commerce of the world than any other four lodes. The total number of men employed in the mines and mills to obtain this metal is about 5,000, giving an average annual yield of \$2,500 for each. The ore is not so rich nor so abundant as it has been in some Mexican lodes, but a greater yield has been obtained by employing more machinery. The general custom of the Mexican mines has been to employ men to carry the ore up out of the mine on their backs, and to transport it from the mine to the mill on mules, to pulverize it by mule power, and to stir it during amalgamation by tramping with the feet of men or mules. If water invaded the works it was hoisted by hand or by horse whims. Thus a Mexican mine required a hundred men to do the work that can be done in a Nevada mine by twenty, and it was difficult to make room for a hundred men to work within such narrow limits. Either they were continually in the way of one another or most of them discharged, and the work advanced with corresponding slowness.

The leading mines at Virginia City are marvellous for the extent of their works and the rapidity with which they extract and reduce the ore. The chief gold mines of California, high as their product is, are small affairs when compared with the vast works of the chief silver companies of Nevada.

. 25.—COMSTOCK MINING COMPANIES.

S. H. Marlette, surveyor general of the State, in his official report for the year 1865, gave the following list of the mining companies on the Comstock lode, with the accompanying statistics and remarks

Companies.	Length in feet.	Greatest depth reached.	Length of lode explored.
Utah.....	1,000	260	300
Allen.....	925	200	300
Sierra Nevada.....	2,157	410	400
Union.....	362	80	(*)
Ophir, N. mine.....	1,200	428	400
Mexican.....	100	620	100
Ophir, S. mine.....	200	620	200
Central.....	150	428	150
California.....	300	428	300
Empire, N.....	55	600	55
Eclipse.....	30	†595	30
French.....	20	†595	20
Empire, S. mine.....	20	550	20
Piuto.....	10	550	10
Bowers.....	20	550	20
Piute.....	20	550	20
Winters & Kutstel.....	30	585	30
Consolidated 21 feet.....	21	585	21
Central No. 2.....	100	360	160
Kinney.....	50	369	(*)
White & Murphy.....	210	369	210

* 1 cross cut. † Evidently an error, and much too large.

List of the mining companies on the Comstock lode, &c.—Continued.

Companies.	Length in feet.	Greatest depth reached.	Length of lode explored.
Sides	500	500	200
Best & Belcher	222	469	222
Gould & Curry	921	821	921
Savage	768	496	768
Hale & Norcross	400	700	200
Chollar Potosi	1,434	700	700
Bullion	940	*455	430
Exchequer	400	*540	None.
Alpha	278½	620	278½
Apple & Bates	31½	600	31½
Imperial (Alta)	118	600	118
Bacon	45	600	45
Rice Ground	13½	550	13½
Imperial, (H. and L.)	65¾	550	65¾
Challenge	50	554	50
Confidence	130	544	130
Burk & Hamilton	40	544	40
Yellow Jacket	957	430	.....
Kentuck	90	300	Shaft.
Crown Point	540	301	540
Belcher	940	520	940
Segregated Belcher	160	500	160
Overman	1,200	640	1,200
North American	2,000	300	.....
Baltimore American	2,000	300	.....
	22,264		
Deduct 6 feet in dispute between Imperial and Apple & Bates' Cos.	6		
Total	22,258		

"The 'dead work' (*i. e.*, shafts, wings, tunnels, and excavations not in pay ore) of the Gould & Curry company equals about 12,750 lineal feet, (about $2\frac{41}{100}$ miles,) with an average cross-sectional area of thirty feet, or about 14,167 cubic yards.

"The companies enumerated above have excavated about 28 miles of tunnels and drifts, and about $5\frac{3}{4}$ miles of shafts, wings, and inclines, exclusive of stopes on ore chimneys, which will amount at least to as much more, giving a total of at least $67\frac{1}{2}$ miles.

"The longest tunnel penetrating the Comstock lode is the Latrobe, 3,200 feet in length in a straight line, besides various branches, which was commenced in February, 1861, and is still being driven ahead. The above-mentioned companies have forty-four hoisting and pumping engines, which will probably average between thirty and forty horse-power, and give an aggregate of more than 1,500 horse power. The mines of the Comstock employ seventy-six mills for reducing their ores, with an aggregate capacity for crushing 1,800 tons daily, some of which are fourteen miles from the mines, the ore being transported on wagons.

"There is consumed annually by these companies about 22,265 cords of wood, at a cost of not far from sixteen dollars per cord, and a total cost of more than one-third of a million of dollars; and they use about 15,540,120 feet, board

* Evidently an error, and much too large.

measure, of timber and lumber, all of which must be transported long distances on wagons, at a cost of about forty dollars per thousand, or a total cost of nearly two thirds of a million of dollars. Thus, for wood and timber, we have a total annual cost of one million of dollars."

26.—QUARTZ MILLS IN NEVADA.

Surveyor General Martlett, in the report for 1865, gives the following figures of the quartz mills in the State:

Counties.	Steam.	Water.	Total.	Horse-power of engines.	No. of stamps.
Churchill					
Douglas					
Esmeralda	12	1	17	497	169
Humboldt	1		1		
Lander	16	3	19		163
Lyon	21	9	34	940	508
Nye			4		38
Ormsby					
Roop					
Storey			36	1,510	623
Washoe	9	1	10		60

Capacity and machinery of Comstock mills.

The Mining and Scientific Press published the following quartz mills in Virginia City and the vicinity, with the name, the number of tons reduced per month, the number of stamps, and the kind of machinery used in reduction.

Quartz mills in Virginia City and the vicinity, with the name, the number of tons reduced per month, the number of stamps, and the kind of machinery used in reduction.

Location and name of mill.	Tons per month.	Number of stamps.	Remarks.
<i>Virginia City.</i>			
Summit	900	20	11 Wheeler pans, 4 settlers, 1 small Varney pan and settler, 1 agitator.
Central	670	13	4 Hepburn pans and 4 settlers, working 500 tons, wet; 4 furnaces and 6 barrels, working 170 tons, dry.
Ogden	1,000	22	12 Wheeler pans and 4 settlers.
Empire	800	21	24 Knox and 2 Wheeler pans.
Hoosier State	400	8	24 Knox pans.
<i>Seven Mile Cañon.</i>			
Mariposa	600	12	6 Wheeler pans, prospecting battery, 2 Knox pans and 3 large settlers.
Chas. Land's	1,000	20	1 Blake's breaker, 19 Wheeler pans, 5 settlers, and 2 grinders for grinding amalgam and work'g slum.
Bassett's	700	16	4 improved Wheeler and 2 Hepburn pans, 2 tubs, and 3 settlers.

Quartz mills in Virginia City, &c.—Continued.

Location and name of mill.	Tons per month.	Number of star'ps.	Remarks.
Winfield, or Booth's ...	1,000	18	1 Blake's breaker, 8 Hepburn pans, 1 grinder, and 4 settlers.
Gould & Curry.....	3,502	80	39 Hepburn pans, 3 Varney pans, and 21 settlers.
Empire State.....	700	15	2 Hepburn, 2 Wheeler, and 20 4-foot Knox pans.
G.Atwood's,Fly Deland's	600	15	26 Knox pans, 2 Wheeler pans, and 2 settlers.
<i>Gold Hill and Gold Cañon.</i>			
Eclipse	700	15	8 Hepburn pans, 2 grinders, and 4 settlers.
Crown Point	200	8	13 Knox pans and tubs.
Rhode Island Cr. P't Co.	1,350	25	8 Hepburn and 10 7-foot Knox pans.
Union	400	14	14 tubs and 1 agitator.
Gold Hill	475	14	24 Knox pans, 6 6-foot tubs, and 4 settlers.
Sapphire	800	16	56 Knox pans.
Petaluma	300	8	18 Knox pans.
Imperial	1,100	44	74 Knox pans.
Empire	900	16	12 Wheeler pans, 6 settlers, and 2 concentrators.
Marysville	500	9	30 5-foot plain pans and 2 agitators.
Douglass	450	10	26 plain pans and 1 agitator.
Atlas	750	15	8 Hepburn pans and 4 settlers.
Piute, Piute Co.....	1,200	20	12 Hepburn pans, 6 8-foot settlers, and 1 grinder.
Pacific, Alpha Co.....	1,300	30	15 Wheeler pans, 5 large settlers, and 2 grinders.
Succor.....	600	20	2 Hepburn pans, 24 Wheeler flat-bottom pans, 1 settler, and 1 agitator.
Confidence	650	12	8 Varney pans, 5 settlers, and 3 agitators.
G. C. Reduction	600	15	6 Hepburn and 4 5-foot flat-bottom pans.
Phoenix	500	16	6 pans and 4 settlers.
Eastern Slope	550	12	6 Hepburn pans and 3 large settlers.
Swansea	600	12	22 6-foot tubs, 3 settlers, prospecting battery, and pan.
Excelsior	530	10	18 Knox pans and 1 settler.
Sacramento	550	12	12 7-foot iron pans and 1 agitator.
Weston's	700	15	9 Wheeler pans, 5 settlers, and 1 agitator.
<i>On Carson river, from Empire to Dayton.</i>			
Mexican	1,260	44	12 Hepburn pans, 4 furnaces, and 10 barrels; by wet process, 1,000 tons; by dry process, 260 tons.
Yellow Jacket.....	2,300	40	30 Hepburn pans, 15 settlers, 2 agitators, and 2 grinders.
Brunswick	600	8	8 Varney pans and 4 agitators.
Merrimac	2,350	20	15 Wheeler, 4 Knox, and 1 Varney pan, prospecting battery and pan, 6 large settlers, and 10 agitators.
Vivian.....	750	16	8 Wheeler pans, 4 settlers, and 1 agitator.
Santiago	1,100	24	1 Blake's breaker, 14 Wheeler and 4 Hepburn pans and 9 settlers.
Eureka	1,100	20	10 Wheeler pans, 5 settlers, and 2 agitators.
San Francisco.....	500	10	3 Hepburn pans and 7 tubs.
Franklin.....	500	10	2 Wheeler and 2 Hepburn pans, 5 tubs, and 2 settlers.
Island	500	10	10 Varney pans and 3 settlers.
Ophir Co.'s.....	1,200	24	12 Hepburn pans and 6 settlers.
Dayton, No. 1.....	500	20	6 Wheeler pans, 2 8-foot settlers, and 2 agitators.
Dayton, No. 2.....	800	15	8 Varney pans, 4 settlers, and 3 agitators.
Birdsall & Carpenter...	2,400	30	20 Wheeler pans, 10 large size Wheeler settlers, 5 agitators, 1 grinder, and 1 Blake's rock breaker.
Golden Eagle	500	10	24 Knox pans and 1 settler.
Illinois	500	20	6 Hepburn pans, 2 settlers and 3 agitators.

Quartz mills in Virginia City, &c.—Continued.

Location and name of mill.	Tons per month.	Number of stamps.	Remarks.
Imperial Co.'s, Black P't	2,400	56	Blake's breaker, large size, 14 Hepburn pans, 27 7-foot tubs, and 7 7-foot settlers.
<i>American Flat.</i>			
Bay State.....	1,400	23	14 Wheeler pans and 7 settlers.
Bigby & Co.....	400	10	5 Varney pans and 4 settlers, 1 extra pan and settler for tailings, and 1 barrel.
<i>Washoe Valley and vicinity.</i>			
Temelec	800	15	12 Wheeler pans and 2 large settlers.
Manhattan N. Y. Co ..	1,300	24	16 pans, 8 settlers, and 1 grinder.
New York.....	1,300	24	16 Varney pans, 6 settlers, and 1 grinder.
Atchison Savage Co....	1,200	20	1 breaker, 16 Wheeler pans, and 8 settlers.
Minnesota Savage Co...	1,000	16	1 breaker, 12 Wheeler pans, 6 settlers, and 1 agita'r.
Buckeye.....	700	10	1 breaker, 8 Wheeler pans, and 4 settlers.
Ophir Co.'s... ..	450	72	Working only 36 stamps, (Freiberg process,) 9 furnaces, 24 amalgamating barrels; work 43 men; full capacity of mill, 750 tons.
J. H. Ball's.....	1,725	60	2 Blake's breakers, 8 furnaces, 20 barrels, 6 Varney and 4 Wheeler and Randall pans.

It appears from this table that there are 331 Knox's pans, 226 Wheeler's pans, 190 Hepburn's pans, 58 Varney's pans, 94 plain pans, 24 Wakelee's pans, 213 settlers, 37 agitators, 12 grinders, 59 barrels, 77 tubs, and two concentrators in use at these mills. Under the head of amalgamating machinery, though not strictly in place, the breakers are mentioned. The list includes 62 mills, 1,226 stamps, 919 pans. The total amount of ore reduced per month is given at 53,787 tons, but the capacity is considerably greater.

27.—THE PAN.

The pan, which is the chief instrument used in the amalgamation of the silver ores of Nevada, is of cast iron, two feet deep, and from two to seven feet in diameter—usually four and a half; to the bottom are fastened dies or movable pieces of iron which form a false bottom, and can be replaced by others when worn out. A shaft rises through the centre of the pan, and to it are fastened shoes or pieces of iron which are to run round over the false bottom and grind the pulp. Many of the pans have chambers at the bottom for steam, which is to keep the pulp at a heat of about 200°.

28.—THE WHEELER PAN.

The above is a description of the general features of the plain pan, the Wheeler pan, and the Varney pan. The Wheeler pan has curved grooves in the bottom, running from the centre to the rim, to hold the quicksilver. To the sides above the mullers are fastened boards so shaped as to throw the pulp to the centre. But for these boards the pulp would move as fast as the muller, sixty revolutions per minute, and might run over at the sides, and would not be brought into proper contact with the quicksilver at the bottom; whereas by throwing the pulp to the centre the current is broken, the heavy matter sinks to the bottom to be ground, and be mixed with the quicksilver.

29.—THE VARNEY PAN.

The Varney pan has a flat bottom, and is made to grind as well as amalgamate. The speed is greater and the pulp thinner than in the Hepburn. Some vertical pieces of sheet iron, which run from the side of the pan with a curve towards the centre, and in a direction contrary to that in which the muller runs, bring all the pulp successively under the muller. Near the centre there are holes in the muller, into which the heavier matter sinks, and from there it is carried out under the muller, being ground as it passes along. The muller does not reach quite to the side of the pan, so a little space is left there for quicksilver.

30.—KNOX'S PAN.

Knox's pan, which is used more than any other, is the simplest of the pans. It is used to amalgamate only, not to grind. Four boards, crossing one another at right angles, are set vertically in the pan, over the mullers so as to keep the surface of the pulp still. If the boards were not there the pulp would run round with the mullers and the ore would not be brought so well in contact with the quicksilver. The mullers run slow, making ten or twenty revolutions per minute.

31.—HEPBURN PAN.

The "Hepburn pan," as it is commonly known, or, as it is styled by the patentees, the "Hepburn and Peterson pan," which ranks third in the extent of use, has a bottom shaped like an inverted cone, with sides sloping up from the centre at an angle of 45° . The muller sets on this slope, and the pulp, which is mixed with only a little water so as to make a thick paste, runs up under the muller, flows inward over the edge, runs down over its upper surface to the centre, where it again turns to run up under the muller. Thus a constant current is maintained, and every particle of the pulp is successively ground and brought into contact with the quicksilver. The Hepburn pan is made with hard iron mullers and false bottom so as to grind well, and if the ore goes in coarse it comes out fine. The muller makes from forty to sixty revolutions per minute, and a large pan will take half a ton of ore at a charge and amalgamate it thoroughly in three hours.

32.—THE WHEELER AND RANDALL PAN.

It is evident that the iron in Hepburn's pan must be ground as well as the ore, and that the grinding will be the greatest at the sides of the pan and least at the centre. Thus it is that in the flat-bottom pan it is frequently necessary to get new mullers and new false bottoms or dies. To remedy this evil, and to make a pan in which, however much the wear, the muller shall fit close to the bottom, the Wheeler and Randall pan was invented. The bottom of this slopes upwards from the rim; but the slope, instead of being straight, as in the Hepburn, curves inward on the line called the tractory curve. The muller has the same curve, and no matter how much it wears it always fits close to the bottom. The same inventors have another pan made on the same principle, but with the point turned down instead of up. These pans have not come into extensive use, but they are mentioned here to show what experiments have been tried in the mechanical construction of pans.

33.—ESTIMATED YIELD OF VARIOUS MINES.

According to the estimate of Mr. Marlette, the following companies had taken out before the 1st September, 1865, the amounts set opposite their respective names :

Gould & Curry.....	\$14, 000, 000
Ophir.....	7, 000, 000
Savage.....	3, 647, 764
Imperial.....	2, 500, 000
Yellow Jacket.....	1, 891, 916
Belcher.....	1, 462, 005
Total for six companies.....	30, 502, 085

34.—ASSESSMENTS LEVIED.

The following table gives a few instances of the manner in which money has been put into mines on the Comstock lode :

Mines.	Feet.	Assessment per foot.	Total assessment.
Yellow Jacket.....	1, 200	\$400	\$480, 000
Sierra Nevada.....	3, 000	116	348, 000
Alpha.....	278	1, 210	336, 380
Savage.....	800	235	188, 000
Crown Point.....	600	290	174, 000
Best & Belcher.....	224	580	119, 920
Hale & Norcross.....	400	875	350, 000
White & Murphy.....	210	303	63, 630
Imperial.....	184	270	49, 680
North Potosi.....	2, 000	140	280, 000
Total.....			2, 289, 610

This list does not include one-half of the amount of assessments levied by well-known companies, and several millions have been advanced in cash by capitalists in San Francisco for prospecting and opening mines which never were heard of, except by a few who spent their money and their friends'. A Mexican proverb says, "It takes a mine to work a mine."

35.—THE GOULD AND CURRY MINE.

The following figures of the operations of the Gould & Curry Company are taken from official reports :

Years.	Receipts.	Dividends.	Tonsextracted	Percentage of dividends.	Average yield of ore per ton.
1862.....	\$900, 743	.....	8, 427	.....	\$104 50
1863.....	3, 917, 937	\$1, 464, 400	48, 743	34	80 40
1864.....	4, 898, 060	1, 440, 000	67, 443	29	73 48
1865.....	2, 395, 242	618, 000	46, 022	25	50 76
Half of 1866.....	908, 119	156, 000	17, 890	17	36 90
Total.....	13, 020, 101	3, 678, 400	188, 525	28	69 06

The mine was not opened until 1862, and before it began to pay its way the sum of \$175,000, or \$148 per foot, had been levied as assessments. The dividends

commenced in 1863, and for that year alone amounted to more than \$1,000 a foot; and also for the next year, although very large sums were expended in building a mill and in making other improvements. The average yield of the ore, however, and the percentage of the dividends, decreased with each year. The ore was nearly twice as rich in 1863 as in 1865, and the expenses in the former year were greater than the gross receipts of the latter.

The total number of tons extracted in four years was 173,000, or a mass of 165 cubic feet, and the bullion produced amounted to about 300 tons of 2,000 pounds of 12 troy ounces each. The expenses of the mine and mill in 1865 were the following:

Total expense at mine.....	\$609, 135 97
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Under this head come the following items:

Labor at mine.....	298, 055 62
Contracts for tunnels, drifts, &c.....	37, 323 50
Lumber and timber.....	147, 382 92
Freight from California.....	11, 357 86

Total expenses at the reduction works.....	\$356, 865 81
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Under this head come these items among others:

Labor.....	160, 260 22
Hauling ore to mill by contract.....	32, 489 83
Firewood.....	206, 749 32
Foundry work.....	33, 188 30
Hardware.....	12, 631 28
Sulphate of copper.....	12, 747 56
Quicksilver.....	9, 903 98
Salt.....	15, 885 54
Water.....	10, 416 84
Oil, candles, &c.....	8, 440 78
Freight from California.....	20, 993 89

The following are further figures from the president's report for 1864:

Cost of extracting ores from mine, per ton.....	\$10 84
Cost of reducing third-class ore at Gould & Curry mill.....	14 46
Cost of reducing third-class ore at Custom mills.....	21 82
Cost of reducing second-class ore at Custom mills.....	50 00
Average yield of all ores reduced, per ton.....	50 76
Average yield of second-class ore.....	255 66
Average yield of third-class ore at Gould & Curry mill.....	44 26
Average yield of all ores reduced at Custom mills.....	45 12

The following is a statement of the operations and expenses of the Gould & Curry mill, (which, however, did not reduce all the ore produced by the mine) for the six months ending May 31, 1866:

The pay of officers, general laborers, watchmen, teamsters, &c., was \$14,354 88.

The cost of the driving power was, \$10,565 87 for labor; \$85,996 for wood; \$2,618 for sundries; \$99,179 87 in all.

The cost of preparing ore for the batteries was, \$8,913 23 for labor; \$828 for sundries; \$9,741 23 total.

The cost of the batteries was, \$14,266 38 for labor; \$4,546 for shoes, dies, &c.; \$2,002 for sundries; total, \$20,814 38.

The cost of amalgamating was, \$15,421 13 for labor; \$1,363 for retort wood; \$12,037 for shoes and dies; \$5,794 for salt; \$12,256 for sulphate of copper; \$17,822 for quicksilver; \$2,232 for sundries; total, \$66,925 13.

The cost of repairs was, \$16,424 48 for labor; \$15,402 for sundries; total, \$31,826 48.

The total expense of the mill was \$79,945 97 for labor; \$162,896 for material; total, \$242,841 97.

The amount of ore delivered at the mill was 20,744 tons; the amount amalgamated was 17,890 tons. The difference of 2,854 tons "shows the loss of ores carried off in slimes."

The value of the ore and of the bullion produced was the following:

	Gold.	Silver.	Samples.	Total.
Value of ore.....	\$185,765 12	\$639,598 21	.....	\$825,363 33
Bullion produced.....	211,712 69	448,036 76	\$507 72	660,257 17

[The excess of gold in the "bullion produced" over that in the "value of ore," must be accounted for by supposing that the samples assayed did not fully represent the average value of the ore.]

The average assay per ton was \$46 13; the average yield was \$36 90; the amount lost was 20 per cent. The total cost of reduction per ton amalgamated was \$13 57.

The cost of reduction per ton was \$0 80.23 for officers, watchmen, and laborers; \$5 54.37 for driving power; \$0 55.04 for preparing ore for batteries; \$1 16.33 for batteries; \$3 73.50 for amalgamation; \$1 77.88 for repairs, and \$13 57 in all.

The expenses of the mine during the six months were the following:

The salaries of officers were \$6,766, or 20 cents per ton.

The cost of extracting ore was \$103,042 99, or \$3 06 per ton.

The cost of prospecting and dead-work was \$68,631 04, or \$2 04 per ton.

The cost of accessory work, \$56,308 38, or \$1 67 per ton.

The cost of improvements was \$19,876 52, or 59 cents per ton.

The total cost of salaries of officers, extraction of ore, prospecting and dead work, accessory work, and improvements was \$254,624 93, or \$7 56 per ton.

The amount of ore produced was 33,705 tons.

The amount of bullion produced from the Gould & Curry ore by outside mills was \$227,085 81, and the total receipts of the company for six months, \$908,119 25.

The expenses were \$254,624 93 for the mine; \$243,131 97 for the Gould & Curry mill; \$7,777 61 for assays; \$128,404 83 for reducing ores at outside mills; \$27,285 53 for general expenses, and \$6,375 76 for the boarding-house. Total, \$667,600 63.

36.—THE OPHIR MINE.

The Ophir company has tried and compared the yard, the barrel, and the pan processes of amalgamation, and the general result of their experience is that the yard process costs \$30 per ton, and loses 20 per cent. of the metal; the barrel process costs \$28, and loses 15 or 20 per cent. of the metal; and the pan process costs \$15 per ton, and loses from 35 to 40 per cent. of the metal. They have abandoned the yard process, as unsuited to the climate and having no advantages; the barrel is retained for ore yielding \$90 per ton or upwards; and the pan is preferred for poor ore. Ore containing \$150 per ton will yield, at 80 per cent., \$120 to the barrel, leaving \$92 after subtracting \$28 in the cost of working; whereas the same ore would give, at 65 per cent., a gross yield of \$97 50, and a net yield of \$82 50 to the pan, showing an advantage of \$9 50 per ton in favor of the barrel. By the same mode of calculation ore containing \$50 to the ton will yield \$12 net to the barrel, and \$17 50 net to the pan. Ore containing \$80 to the ton gives about an equal net yield to the barrel and the

pan. The following are the figures of some of the operations of the Ophir company for the year ending November 30, 1864 :

	Tons worked.	Value.	Yield.	Cost per ton.
Barrel.....	4, 554	\$601, 653 99	\$519, 703 38	\$32 05
Yard.....	3, 336	299, 825 85	248, 947 65	32 37

Since 1864 the cost of barrel amalgamation has been reduced to \$28 per ton.

In 1865 the barrel and pan were used, and the following figures show the amount of bullion produced, and the sums and proportions of gold and silver in it :

	Gold.	Silver.	Total.	Ratio of gold.
Barrel	\$64, 816 27	\$178, 747 61	\$243, 563 88	26 per cent.
Pan	115, 029 16	96, 247 72	211, 876 88	54 per cent.

The qualities of ore used in the two processes were different, but the proportions of gold and silver were about the same ; and hence it appears that the barrel loses the gold and the pan loses the silver. The value of the ore submitted to the barrel process in 1865 was \$332,273 61, and the total bullion obtained, including some not represented in the above table, was \$269,327 94, showing a loss of \$62,945 67, or 18 per cent. The bullion obtained from the barrels was worth \$1 05 per ounce, and, therefore, must have contained a considerable proportion of base metal, since one-fourth in value was gold, and pure silver alone is worth \$1 33 per ounce. The pan bullion was worth \$2 31 per ounce, or more than twice as much as the barrel bullion.

37.—THE SAVAGE MINE

At the annual meeting of the stockholders of the Savage Mining Company, on the 10th of July, 1866, Alpheus Bull, president, submitted a report, in which he said :

“By reference to the annual reports heretofore made I find the first ore taken from the mine was in April, 1863. The total number of tons extracted up to July, 1865, (26 months,) was 81,183, or 3,122 tons a month. The entire yield of bullion from the above number of tons amounted to \$3,600,709 26, being an average of \$44 35 per ton.

“During these twenty-six months there was disbursed \$2,939,808 76, besides paying over \$800,000 in dividends. For reduction alone there was paid \$1,682,701 44, almost fifty per cent. of the gross yield of the mine.

“The total production of ores for the past year was 30,653 tons, of which there were reduced 20,535 tons, yielding bullion of the value of \$1,303,852 91, or an average of \$44 14 per ton, at a cost for reduction of \$16 74 per ton. Notwithstanding there was less ore extracted during the year just ended, and the average value per ton a little less than the preceding years, yet the net earnings of the company are in favor of last year's operations. The cost for extraction of ores the past year is certainly high, but this is justly chargeable to the extensive improvements in building machinery and explorations in the mine, the practical benefits of which will be derived by the stockholders at some future period.”

The superintendent's report for the year ending on the 1st of July, 1866, gives the following figures relative to the ore extracted :

	Extracted. Tons.	Total yield.	Yield per ton.
First class	435	\$93,220 04	\$224 08
Second class	26,338	1,096,449 23	42 04
Third class.....	3,878	62,084 54	20 43
Total.....	30,652	1,251,753 81	.....

Average yield of all ore reduced, per ton, \$42 38.

During the last four months preceding the date of the report the cost of reduction had varied from \$11 69 to \$12 95 per ton.

38.—THE YELLOW JACKET MINE.

The following statistics of the yield of the Yellow Jacket Silver Mining Company for the year ending July 1, 1866, are taken from the annual reports made by the officers of the company :

218 tons first-class ore worked, yielded, per ton.....	\$172 05
53,307 tons second-class worked, yielded, per ton.....	31 00
1,479 tons sold, yielded, per ton.....	3 26
Average of all ore worked per ton	32 51

Gross product of bullion from ores worked.....	\$1,690,394 82
Gross product of ore sold.....	4,833 88

Total product.....	1,695,228 70
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Assessments to the amount of \$300,000 were collected, and no dividends were declared during the year, but a debt of \$379,771 was paid off and a surplus of \$142,915 remained on hand at the end of the year. Among the expenditures are the following items :

Crushing ore at outside mills.....	\$507,438 23
Crushing ore at company's mills.....	352,178 81

Total cost of crushing.....	859,617 04
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The term "crushing" here must include all the process of reduction, and the cost is about half the total yield of the ore worked.

39.—THE CROWN POINT MINE.

It appears from the annual report of the Crown Point Mining Company for the year ending May 1, 1866, that the receipts from the mine in that period were \$689,191 37; the number of tons reduced, 18,259½; and the average yield per ton \$37 33. Excluding about \$8,000 of assay chips and bullion sold, there was \$243,967 86 in gold and \$437,207 27 in silver. The average cost of extracting the ore was \$8 97. The cost of reduction is not given precisely.

40.—THE HALE AND NORCROSS MINE.

The Hale and Norcross Silver Mining Company own 400 feet on the Comstock lode. They commenced operations in 1862, and worked on for four years, at great expense, before they found any considerable body of ore to reward them.

They levied and collected assessments to the amount of \$875 per foot, making a total for the company of \$350,000 invested before any return began to come in. In February, 1866, 1,261 tons were taken out, and the amount has since steadily increased. September yielded 2,152 tons, and the eight months from February to September, inclusive, 16,986 tons, which produced \$736,394 32 in bullion; an average of \$43 35 per ton.

41.—THE IMPERIAL MINE.

The total receipts of the Imperial Mining Company, from the beginning of its operations to the 31st of May, 1866, were \$259,133 80, including \$50,000 of assessments. The dividends paid amounted to \$527,500. The following are certain figures for the years ending May 31, 1865, and May 31, 1866:

	1865.	1866.
Tons extracted	28, 236	34, 735
Total yield	\$854, 630 56	\$1, 019, 275 91
Average yield per ton	22 14	29 90
Cost of extraction per ton	5 37	5 49

The bullion for 1866 was worth \$2 02 per ounce on average, the fineness in gold being .039 and in silver .942.

The cost of reducing 11,404 tons of ore at the Gold Hill mill was \$8 66 per ton, and at the Rock Point mill, (where 23,227 tons were reduced,) \$10 15 per ton.

42.—THE EMPIRE MINE.

The following are extracts from a report made by Benjamin Lilliman on the Empire mine on the 2d of December, 1864:

"Up to this time (November 30) this company have crushed, since their organization on March 7, 1863, about 25,000 tons (of 2,000 pounds) of ores in their own and other mills, and have received from it, for the same period, in bullion, one million forty-three thousand seven hundred and twenty dollars and forty-eight cents (\$1,043,720 43,) as appears by the bullion receipts which I have examined. The actual value received by the company in working their ores has been, therefore, \$40 76 per ton of 2,000 pounds. The amount lost in tailings it is impossible to fix, but we are justified, from the general experience of the mills working on the Comstock ores, in assuming the loss to be at least one-third of the total value extracted." * * * "There has never been an assessment on the mine, nor was there any capital stock paid in. The nominal capital was one million of dollars. But the mine has paid for everything, besides paying its fortunate owners \$308,000 above all costs and charges."

"If from the balance of.....	\$731, 720 48
We deduct the cost of the mill in 1863.....	\$60, 000
Mill in Virginia City.....	75, 000
New shaft and present improvements to 1864.....	70, 000
	<hr/> 205, 000 00

There remains for the presumed cost of mining and milling... 526, 720 48"

The president of the company, in his report for the year ending November 30, 1865, says:

"The receipts of the year, from all sources, amount to the sum of \$543,081 79, and the total disbursements to \$525,129 79, of which \$120,000 have been paid in dividends to stockholders." * * * "At the mine, during the year, the main shaft has been sunk 133 feet, and drifts run, at various levels 965 feet, consuming 554,500 feet of timber."

During the year 20,500 tons were extracted from the Empire mine, and the bullion produced amounted to \$485,542 49, including \$185,452 30 in gold and \$298,929 96 in silver. The bullion was worth \$2 02½ per ounce; weighed 240,812.20 troy ounces before melting, and 239,707.95 ounces after melting.

43.—PRODUCTIVE MINES OF REESE RIVER.

The following statement of the amount of bullion produced by the mines of Lander county, Nevada, during the quarter ending September 30, 1866, is taken from a report by the county assessor:

Name of mine.	Tons.	Pounds.	Average per ton.
Great Eastern	412	659	\$176 82
Fortuna	23	.....	85 71
North River	29	536	217 56
Troy	2	1,000	83 82
Diamond	1	402	132 57
Blind Ledge	2	1,965	128 64
Semanthe	2	774	276 97
Othello	5	1,105	36 35
Idora	16	1,237	212 62
Eastern Oregon	1	.....	86 46
Foster	26	1,212	48 47
La Plate	50	882	71 60
Chase & Zent	4	1,000	362 04
Canada	6	1,500	132 90
Eldorado	2	568	291 58
Magnolia	4	1,171	259 93
Washington	4	88	187 43
Morgan & Muncey	17	634	107 75
Diana	17	563	180 40
Detroit	14	1,800	116 18
Camargo	39	.....	90 77
Timoke	28	253	167 92
Dover	2	450	161 64
Isabella	19	503	40 08
Harding & Dickman	1	1,233	87 19
Providential	79	1,000	39 04
Cortez Giant	227	.....	65 07
Folsom	5	1,019	166 00
Savage Consol, No. 1	160	.....	156 83
Savage Consol, No. 2	230	.....	74 00

44.—YIELD OF VARIOUS SILVER DISTRICTS.

The total annual yield of Lander county, Nevada, (or, as it is often called, Reese River region,) is about \$900,000, and the yield of the Owyhee district in silver is about \$1,500,000; so that this latter is next to Virginia City among the silver producing districts of the United States, and it has the resources to increase its production greatly within a few years. The yield of Esmeralda was nearly \$1,000,000 in 1863, but it is now not \$100,000, and the Humboldt district does not produce more than \$50,000.

45.—IMPROVEMENTS IN SILVER MINING.

Although the silver mining at the Comstock lode is not in a satisfactory condition, it is at least progressive, and there is a certainty of steady improvement for a long time. So far as the extraction of the ore is concerned, there is nothing better anywhere. The pumping and hoisting are done by machinery of unsurpassed excellence. A machine has been invented for lowering men with safety

into the mine, and another for framing the timbers to be used in supporting the sides and roofs of drifts. It is in the reduction department that the chief defect exists. For a long time most of the ore was sent to custom mills, and as they were paid a certain sum per ton, it was their interest to reduce as much as possible without special regard to the thoroughness. For years this was the only method of obtaining any return from most mines; and besides, it was in accordance with the custom of the silver miners of Mexico, Peru, and Bolivia, where for centuries the mines and the reduction works have belonged to distinct classes.*

But in time it became evident that the most productive mines must have reduction works of their own, and now they are provided with magnificent mills, in which the processes of pulverization and amalgamation are carefully studied by many careful and competent men; and they will undoubtedly make valuable contributions to the metallurgy of silver within a few years. Although the expenditures in the large silver mines are immense, they are not extravagant. The general financial affairs are very carefully studied and strictly managed. The operations are so extensive, the amount of material consumed is so great, and labor is so high, no small sums of money suffice. The completion of the railroad from Sacramento to Virginia City will reduce the cost of wood, and of various other important supplies, nearly or quite fifty per cent. and will be followed by consequent reduction in the price of labor; and the completion of the Sutro tunnel will reduce the cost of draining and ventilating the mines and of extracting the ore. The railroad may be in running order within a year; the tunnel will not be finished for several years at least.

SECTION 4.

RESOURCES OF NEVADA, OREGON, WASHINGTON TERRITORY, UTAH, MONTANA, AND IDAHO.

1. Historical sketch of Nevada.—2. Geography and products of Nevada.—3. Mines and mineral resources of Nevada.—4. Mining property, &c.—5. General view of the mines of Nevada, Oregon, Washington Territory, Utah, Montana, and Idaho.
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1. HISTORICAL SKETCH OF NEVADA.

Boundaries.—The State of Nevada, erected from the former Territory of Nevada, extends easterly and westerly from the 37th to the 43d meridian west from Washington, and from the 42d degree of north latitude to Arizona, having Oregon and Idaho on the north, Utah on the east, Arizona on the south, and

* H. G. Ward, in his book on Mexico, speaks there of the reduction works in the leading mining districts of that country: "The haciendas are mostly close to Guanajuato, and though now in ruins, their number and extent attest both the former importance of the mines and the opulence of the *rescatadores* (amalgamators,) by whom these extensive buildings were raised. Few or none of them possessed a sufficiency of water to work their machinery, for which purpose mules were employed, and 14,000 of these animals were in daily use (to work the arrastras and tread the ores in the *patio*) before the revolution. The *rescatadores* purchased their ores at the mouths of the shafts, relying entirely on their own powers of estimating by the eye the value of the montones (heaps) exposed for sale in such a manner as not to make a disadvantageous bargain. In this science they attained great perfection; for more fortunes were made in Guanajuato by amalgamation works than by miners themselves; while the extent to which the system was carried afforded to the successful adventurer the means of realizing instantly almost to any amount. During the great *bonanza* (rich yield) of the Valenciana mine, sales were effected to the amount of \$80,000 in one day; and it is to this facility in obtaining supplies that the rapid progress of the works in that mine, after its first discovery, may be ascribed. Had it been necessary to erect private amalgamation works in order to turn his new born riches to account, many years must have elapsed before the first Count Valenciana could have derived any advantage from his labors; for when fortune began to smile upon them, the man who was destined in a few years to rank as one of the richest individuals in the world did not possess a single dollar."

California on the southwest and west; comprising within its limits an area of 80,239 square miles. This region was a portion of the territory acquired by the United States from Mexico under the treaty of Guadalupe Hidalgo, belonging previous to its transfer to the "department of Alta California." Prior to its acquisition by our government it was inhabited only by the aboriginal races, there being no settlements of civilized people, not even a mission, within its borders. At the time of the discovery of silver in 1859, ten years after its first settlement by the whites, it contained less than one thousand inhabitants, which number, two years later, had increased to nearly 17,000, as appears by the census returns taken in August, 1861; the estimated population of the State being at present between thirty-five and forty thousand, at which number it has remained nearly stationary for the past three years.

The aboriginal races.—These consist of three or four principal nations, divided into many small communities or families, sparsely scattered over the entire country. These nations are the Washoes, inhabiting a succession of small valleys along the western border of the State, the Pah-Utahs occupying the balance and greater portion of the western; while the third division, the Shoshones—hold the eastern part of the State. Some have considered, and perhaps properly, the Pannocks, a race dwelling in the northern and northeastern portions of the State, as a distinct nation. With the exception of the last named, these Indians, though often at variance among themselves, are naturally peaceful and inoffensive, being distinguished less for their warlike propensities than a good natured indifference as to what is going on around them. They have never manifested any great degree of hostility towards the whites, nor seriously objected to the latter entering and settling in their country, their opposition generally extending no further than an occasional protest against the destruction of their pine orchards, upon the fruits of which they are largely dependent for their subsistence. The Washoes, though the least numerous of these tribes, have always been remarked for their honesty and friendliness towards strangers. These Indians, though somewhat nomadic in their habits, have their favorite places of abode, these being generally along the rivers or about the sinks and lakes where fish and wild fowl are to be obtained. These localities usually form their winter homes, much of their time during the summer and autumn being spent in the mountains, where alone is found the pinon, a species of scrubby pine, the nut of which forms with them a staple article of food. These people cultivate no land, depending entirely on the natural products of the country for a livelihood, and as these are not numerous or abundant they sometimes suffer from want. They build no houses, scarcely even a wigwam; a few sage brush or willows put up to break the force of the wind, affording them, even in winter, ample protection. Few of them own horses, fire-arms, or other property of value, the whole race being distinguished for extreme poverty. Formerly they dressed in the skins of wild animals, as many of them still do, the skins of the hare being chiefly used for this purpose. Latterly they are becoming addicted to a more civilized but scarcely improved style of dress, clothing themselves with the cast-off garments of the whites. The women are by nature modest and chaste, and, as among most savages, have to perform the greater part of the labor necessary to their own sustenance as well as that of the men. Taken as a whole, these cannot be considered a bad race of Indians, exhibiting few of the savage and murderous traits that distinguish the tribes further in the interior; and though shiftless and indolent they are not averse to work where favorable opportunities offer. Many of them are now employed by the whites, being found very useful in various kinds of unskilled labor. Two reservations have been set apart in the State for the use of these Indians; but as yet no thorough and systematic measures have been adopted for retaining them at these places or for instructing them in the arts of civilized life, nor is it likely that much will be accomplished towards that end through the agency of these reservations. Since

their intercourse with the whites these people have become demoralized, and the increase of physical maladies among those of them thus exposed has already sensibly diminished their numbers.

First settlements by the whites.—The first settlements within the limits of this State were made in 1848 by the Mormons, some of whom, in passing back and forth between California and Salt Lake, observing the excellence of the land, located in Carson and Washoe valleys. The following year they were joined by a few adventurers, who, attracted by the gold discoveries in California, had made the journey overland, but stopped on finding here the object for which they had set out. From this time the population gradually increased, until, in the summer of 1859, it had been swelled to the number already stated, notwithstanding most of the Mormons had meantime left, having, by a mandate of the church, been ordered to repair to Salt Lake. Up to this period the crossing of the Sierra Nevada, in the absence of wagon roads or even tolerable trails, was an arduous task; yet quite a good many came over from California, bringing provisions to exchange for the famished stock of the immigrants, and finding here good pasturage, some remained and finally became permanent settlers. Meanwhile a few were drawn from that State by the gold diggings or a mere love of adventure, a few also being added by the overland immigration, thus making up a population so considerable in a country difficult of access and otherwise possessing so few attractions.

The gold discovery.—This event occurred, as above intimated, in the summer of 1849, being the result of examinations made by a party just arrived on their way to California across the plains. The first gold found was at a point near Carson river where the emigrant road crosses Gold cañon, and where the town of Dayton now stands. This cañon is a deep ravine coming down from the high range of mountains six miles to the west, and along the eastern slope of which the Comstock, the great silver-bearing lode of Nevada, is located. The head branches of this ravine cut the Comstock lode at a number of points, the deepest of these cuts being at Gold Hill. A portion of this lode is distinguished for its auriferous character. The particles of gold having been released from the masses of quartz at this place by the process of disintegration, were subsequently washed down the cañon and deposited in its bed and along its banks, the finer portions being carried still further down and left upon the bar at its mouth; hence the origin of these placer mines. That this is the primary source of these deposits is apparent, not more from the nature of the case than the character of the dust, which is so far alloyed with silver as to be worth only from \$10 to \$12 per ounce, corresponding in this particular with the gold obtained by crushing the surface rock at Gold Hill. The pay realized in these diggings for the first few years was very good, averaging nearly an ounce a day to the hand; but it finally declined (until in the fall of 1859, when they were mostly given up) to less than a third of that amount. The number of men engaged here in gold washing varied from 20 to 100; a majority of them, towards the last, being Chinamen, who continued working in a small way for a year or two after the diggings had been abandoned by the whites. The total amount of gold dust gathered from these placers is estimated at between three and four hundred thousand dollars. Some rate it much higher, affecting to believe that the Chinese took out larger sums than they reported. At no other place, except Gold cañon, have placer mines of any extent or value been found as yet in the State of Nevada. In Six Mile cañon, a ravine running parallel to and a short distance below Gold cañon, some trifling deposits were found, the following up of which led to the discovery of the Comstock ledge. Some surface mines, of narrow extent but considerable richness, were also found in 1857 near Mono lake, then supposed to be within the limits of Nevada Territory, but afterwards ascertained to be in California. For several years these paid fair and in some instances large wages, and a town of over a thousand inhabitants sprung up at

that point. The town, however, as well as the diggings, is now nearly deserted, but little having been done there for the past five years. There are in the vicinity several small quartz ledges, showing in the croppings much free gold. In 1860, some of these were worked by arrastras driven by water power, very good results being obtained, and it is thought by many these ledges could be worked on an extensive scale with profit, wood and water power both being convenient. At a number of other points, as on the forks of the Carson and Walker rivers, in Washoe valley, near Virginia City, and elsewhere, placer deposits have from time to time been met with, but in no case have they been lasting or remarkable for richness, none of them having been worked for more than a short period, and all being now abandoned; and though the most diligent research has been made during the past six years in nearly all parts of the State, no mines of this class, of any great extent or value, have yet been discovered. At the same time there are, as is well known, in almost every quarter of the country, lodes of auriferous quartz sufficiently rich to pay for reduction when worked for gold alone.

Discovery of silver.—Unlike the finding of gold, the discovery of silver in Nevada was a fortuitous event, having been brought about in this wise: The miners working up Six-Mile cañon, when near its head, and a little below where the Comstock lode crosses it, encountered, mixed with the auriferous earth, a black metallic substance, which gave them much trouble, being, on account of its weight, difficult of separation from the gold. This was in the year 1858, and, although they were thus led to notice this substance, being ignorant of its value, they did not inquire into its particular character or attempt to trace it to its origin. It was to them simply a cause of annoyance, and, as such, to be avoided or got rid of as easily as possible. Having finally, during the subsequent winter and spring, worked up this gulch until they were in the immediate vicinity of the Comstock lode, it became expedient to dig a reservoir to hold the water used in washing, this being obtained from the ravines above; and, although a line of rich surface earth had before been traced up to this point and considerably worked, it was not until this excavation was made that the deposit of silver ore in place was discovered and laid open. Nor did the magnitude of the event come to be appreciated and made generally known until the month of June following, when intelligence of it first reached California. What little merit attaches to the discovery, though claimed by divers individuals, would seem to belong chiefly to one James Fennimore, or Phinney, as he was usually called on this side the mountains, and who was the first to locate a mining claim on the Comstock ledge proper. This claim, made more than a year before, covered the exact point where the silver was first found, it being on the north end of the original Ophir ground, and near the south line of the Mexican Company's claim. Here a mass of rich silver sulphurets, mixed with free gold, came quite to the surface, this rich deposit, carrying an increased quantity of gold, having subsequently been found to extend for a considerable depth below, being especially rich in the ground of the Mexican, or, as it was then more commonly termed, Spanish Company. Phinney, who, like most of the pioneer miners of Washoe, as the country was then called, was of a generous and improvident disposition, wherefore, having gotten ahead a few dollars, and being ignorant withal of the great value of his ground, sold it to his companion, Henry Comstock, for a trifling consideration. The latter, though comprehending better than Phinney the value of this property, had so little appreciation of its real worth, that he congratulated himself on being able to dispose of it shortly after for a few thousand dollars, having, however, the further satisfaction of imparting his name to this remarkable lode. Nearly all the valuable claims on the Comstock ledge, as far south as Gold Hill, had, within a few months after the discovery of silver, passed from the possession of the original locators and owners into the hands of more

intelligent or wealthy men, leaving the former class, who might so easily have become millionaires, generally quite poor.

Before proceeding to a more particular description of the Comstock ledge, and of the mines and mining operations generally of Nevada, it may be expedient, as contributing to a better understanding of what must be said in that connection, to give a brief outline of the physical geography of the State, its natural resources and productions, climate, agricultural capacities, &c.

2.—GEOGRAPHY AND PRODUCTS OF NEVADA.

Its system of mountains, plains, and valleys.—Viewed as a whole the State of Nevada, in common with the great American basin or desert of which it forms a part, may be considered an elevated plateau, having a general altitude of more than 4,000 feet above tide-water. Traversing this lofty plain are numerous chains of mountains, separated by valleys having a width varying from five to twenty miles, and usually about equal to that of the adjacent mountains measured through their bases. The course of these valleys is, as a general thing, parallel to the main axes of the mountains, which have, for the most part, a northerly and southerly strike. These mountains vary in height from 1,000 to 5,000 feet above the common level of the country, having, therefore, an absolute elevation of from 5,000 to 9,000 feet above the sea. For a distance of nearly 300 miles the Sierra Nevadas form a natural barrier along its western and southwestern border, the boundary line between this State and California running partially upon its summit and partially along or near the eastern base of this range, which, though not here attaining its greatest altitude, has, nevertheless, within the limits of Nevada, a general height of more than 7,000 feet, a few of the loftier peaks reaching a height of 10,000. These mountains do not on this, as upon the California side, slope to the plains with a long and gentle declivity, but pitch violently down, having precipitous sides throughout their whole course. They are covered nearly everywhere from base to summit with a growth of terebinthine forests, consisting of a variety of pine, spruce, and fir; well adapted to make superior lumber. There are also a few other scrubby trees, of but little value, and at one or two points groves of tamarack. No oak or other hard wood of any size is found on this slope of the sierra, nor, indeed, in any other part of Nevada. The alternation of mountains and valleys mentioned is preserved with much regularity throughout the State, being most marked in the central portions thereof. Sometimes the former contract or are so broken up as to transform the valleys into broad plains or basins, some of which are open and unobstructed, while others are covered with isolated buttes or clusters of rugged hills. Sometimes, also, these mountains seem to lose all order, being grouped in confused masses, or have an axis at right angles or otherwise nearly transverse to the trend of the principal ranges. As in the Sierra Nevada, these interior chains contain many peaks upon which, in spots sheltered from the sun, the snow lies all summer; and while some of them are comparatively well watered, sending down perennial streams from their sides, others contain but little or are wholly without water. This is especially the case with those in the more western and southern portions of the State.

Among these ranges, sometimes at short intervals, gaps or low passes are met with, affording easy crossing places, some of them being so low and smooth as to offer no serious obstacle to the passage of loaded wagons, and through which railroads could be constructed with the greatest facility. In their geological structure these mountains, though varying somewhat, have many features in common, the mass of them being composed chiefly of sienites, slates, and granite; limestone and porphyry are also common rocks. In places, the evidences of volcanic action are abundant, though not apparently of recent date, though lofty, and in many instances having their sides deeply channelled

by numerous ravines, or, as they are more commonly called, cañons. The mountains of Nevada are not remarkable for boldness of outline or a generally rugged aspect, the once jagged peaks having been rounded into dome-like shapes by the process of disintegration. In some cases, however, these still shoot up into splintered and spire-like summits, presenting a contour particularly sharp and striking. Most of these ranges are sparsely covered with bunch grass, and also with scattered patches of piñon and other scrubby trees, three-fourths of their surface being destitute of any kind of timber. Along some of the streams that flow down their sides are narrow strips of alluvial soil suitable for gardens, and which, sometimes spreading out at the points where these streams debouch upon the plains, afford a sufficiency of arable land for small farms. The mountains form, of course, the chief repositories of the mineral wealth of the country, though metalliferous deposits of apparent value have, in some instances, been met with in the valleys or out upon the plains. As the mountain chains often continue their course for a hundred miles or more without break or deviation from their general course, so also do the intervening valleys extend longitudinally for a like or even greater distance without interruption, and with an inclination so slight as to be imperceptible by the eye. These valleys, owing to the breaking up or recession of the neighboring mountains, sometimes spread out into plains of great extent, while in other cases they sweep around the ends of the mountain ranges and open into other valleys, being on the same level or having a plain but little different from their own. In some instances these adjacent valleys are separated only by a low ridge or swell of land, so trifling as to offer no serious impediment to the construction of wagon roads or railways, either of which might, if following a generally northern and southern course, run for hundreds of miles over an almost perfect level. But while these valleys are longitudinally so nearly level, they all have a gradual slope from the bases of the lateral mountains towards their centres, giving to their transverse sections a curved or basin-like shape. Through a few of them runs a stream of water supplied from the mountain rills on either hand or about its sources. Most of these mountain streams, being small, sink out of sight, being absorbed by the dry and porous earth as soon as they reach the margin of the valley, leaving the latter without any general stream flowing above ground through its midst. In cases where there is a sufficient accumulation of water to cause a stream to run above ground through the valley there is usually a strip of arable or meadow land along its margin, the quantity generally being proportioned to the magnitude of the stream; Carson, Reese river, Umashaw, Paradise, and Pahrana-gat valleys being examples of this kind. This strip of good land is often but a few rods wide, again spreading out to a mile or more in extent, while in many places, as where the banks of the stream are high, it disappears altogether. In some of the valleys, as Ruby, Big Smoky, Toquima, &c., there is much good land, though there is no open stream flowing through them. In these cases the rivulets from the mountains, though they disappear on reaching the valley, no doubt make their way underground to its centre, and percolating through the earth cause these fruitful spots by a system of natural irrigation. Other valleys, again, owing to an absence of these mountain streams, are destitute of even the smallest amount of good land, or at least of such as can be made available for agricultural purposes, much of the soil being rich but unproductive, because of its aridity and lack of means for irrigation. These valleys are nearly all treeless, not even a shrub larger than the artemisia being met with, except in a very few of them; the exceptions being confined to those having large streams of water running through them, such as the Carson, Truckee and Humboldt, along which are a few scattered cottonwoods and willow, the latter of very little use. Along many of the mountain streams a similar growth of timber is met with, as well as birch and other trees, all of a small size. The more extended plains are marked by a greater degree of sterility

and dryness than other portions of the country, all of these being destitute of wood and most of them but scantily supplied with grass and wholesome water, much of the latter being so warm or highly mineralized as to be unfit for use. These plains are, in fact, for the most part, nothing but absolute deserts. This system of valleys, and plains so enclosed by mountains and sometimes connected with each other, constitutes a series of basins, each having a drainage of its own, but scarcely any of them an outlet to the sea. To this mode of drainage Nevada, as well as many other parts of the Great Basin, is entitled for some of its most peculiar topographical and geological features, this common receptacle of the gathered waters becoming, according to circumstances, a lake, a meadow, an alkali flat or a salt bed.

The sinks, sloughs and lakes.—As stated, but a small portion of the waters of Nevada are supposed to reach the ocean. That very little does so through surface channels is apparent, some holding to the rather questionable theory that much of it makes its way thither through subterranean passages. However that may be, certain it is the surface accumulations are by no means great. But it must be considered that the fall of rain and snow is limited, while, owing to the aridity of the atmosphere and earth, evaporation and absorption take place rapidly. The only considerable lakes in the State are those formed by the waters of the Carson, Walker and Humboldt rivers, and bearing the names of these streams, respectively, together with Pyramid lake, receiving the waters of the Truckee river. To Lake Tahoe Nevada can hardly lay claim, two-thirds of it being on the California side of the line. There are, besides the above, a number of smaller lakes in different parts of the State, the most of which are not only of limited area but extremely shallow, which latter is also the case with the Humboldt and Carson. Pyramid, the largest of the number, being thirty-three miles long and fourteen wide, has a great depth; the Walker, nearly as large, being also quite deep. Carson lake has a diameter of about twelve miles, being nearly circular; the Humboldt being somewhat smaller. The waters of these lakes are impregnated with alkaline and other salts to a degree that renders them unpalatable, and in the case of the Humboldt, especially at low stages, scarcely fit to drink. Flowing from several of these lakes are streams carrying their surplus water and discharging it into other and still more shallow lakes situate a short distance below; the former of these are, in popular language, called *sloughs*, the latter *sinks*, implying that here the water finally disappears or sinks, which is not really the case, the sink of the Carson, forming also that of the Humboldt, having a greater area than either of those lakes, and, though extremely shallow, never wholly drying up, as some of the smaller lakes often do. Honey lake, ordinarily quite an extensive body of water, in seasons of extreme drought, wholly disappears. The little lakes formed in the spring by the Wemissa, Umashaw, and similar streams, all dry up later in the season.

Alkali flats and mud lakes.—As geographical objects these are in some respects closely allied to each other, being identical locations existing under different conditions; the alkali flat is often the mud lake dried up, and the mud lake the alkali flat covered with water. Where, as frequently happens, the surface of a valley or plain is composed of clay or other substance impervious to water, the latter, after heavy rains, will collect upon these spots, and spreading out sometimes cover a large extent of country. These bodies of water generally dry up in a few days or weeks at furthest, though some of them that attain a greater depth remain for a longer period, in some cases, until quite late in the summer. The beds of these lakes being almost perfectly level, they are never more than a foot or two deep, generally but a few inches; yet usually being clear and calm, and reflecting the surrounding mountains with the greatest distinctness the stranger is led to believe them a very formidable body of water, an illusion that is effectually dissipated on seeing the wild fowl wading far out into them, or on riding through

them and finding they rarely ever reach above his horse's knees. These places, whether covered with water or not, unless the road be thrown up and trod hard during the dry season, are difficult of passage in wet weather, particularly to loaded teams. When the mud lake dries up, an argillaceous sediment is deposited on its bottom, often impregnated with alkaline matter or other salts, which, being white, and frequently hardening until it glistens in the sun, give to these spots a marked and desolate appearance; so hard do these surfaces sometimes become that a heavily loaded wagon fails to cut through them, and animals passing over scarcely leave a footmark behind them. In other cases, these flats, or a portion of them, remain soft the year round, the water coming within a few inches of the surface. In these cases a constant efflorescence of saline matter is going on, the sublimated particles being deposited upon the surface and on the surrounding shrubbery, if there be any near by, which is not apt to be the case, the soil being so much covered with water and so mixed with agents unfriendly to vegetation that the wild sage and greasewood, the least dainty of all plants, fail to get a foothold upon these flats. Not even a moss or lichen, or the most lowly fungus, ever lives there. While these alkali flats and mud lakes are found in nearly every section of Nevada, the most extensive are met with in the northwestern part of the State, where in wet seasons they cover hundreds of square miles.

Its rivers and streams.—Nevada, considering the extent of its territory, is remarkable for its lack of streams of any magnitude. It has not a navigable river—scarcely more than one or two streams that in most countries would be called a river, within its borders. The Humboldt, the longest and largest river in the State, is, at ordinary stages, fordable in many places, as are all the others, nearly everywhere along them. The habit, common on this coast, of designating so large a class of diminutive streams as rivers, is apt to give them an importance on the map which they do not deserve. Reese river, though having a length, traced from its source to its sink, of nearly one hundred and fifty miles, is not over ten or fifteen feet wide, with an average depth of about two feet; other streams, popularly termed rivers, being still smaller. As a general thing, the rivers have a hurried current, with occasional rapids, though nothing like a cataract or even a tolerably-sized cascade is known to exist in the State.

Flowing through broad valleys the immediate banks of the streams are apt to be low—in the case of the smaller ones, only a few feet above the water. Reese river, a good type of this class, flows through a canal-like channel, with parallel banks, composed of clay and sodded quite down to the water, which at ordinary stages is from two to ten feet below the adjacent plain. Except far down, it never dries up and scarcely ever overflows its banks. It disappears at one or two points along its course, there being here no channel above ground. At these places large meadows are formed, and having diffused itself throughout their whole extent, the water reappears below, sometimes at several points, and being again gathered into one channel, flows on as before. It is worthy of remark, however, that in its passage through this meadow the water, from being perfectly limpid as above, has been turned to a milky color, though not perceptibly altered in taste, the discoloring matter being probably a species of clay containing no deleterious or offensive properties. Reese river, after running with no other interruptions than these for nearly one hundred miles, begins to diminish, standing only in pools along its course, which are separated, often for a considerable space, by the more elevated portions of its bed or patches of meadow land. The stream only at high water continues to run along this part of its route, when it makes its way nearly to the Humboldt, finally disappearing in a tule fen that dries up in the fall and winter, the seasons of greatest drought, or at least of lowest water in this country. The Wemissa, Umashaw, and many other streams terminate in a similar manner; these marshy spots, like those where the larger rivers find a terminus, being commonly called *sinks*.

The water in most of the rivers and creeks is wholesome and palatable throughout their entire course, that of the mountain rills being always excellent. The lower the stage of water and the further we go down the stream the more impure it becomes; the water of the lower Humboldt being, late in the season, hardly fit to drink, owing to the accumulated impurities here diffused through a smaller volume. In consequence of the waste from evaporation and absorption, most of the larger streams lose as much water from these causes as they gain from their tributaries, of which they have very few, imparting to the rivers of this region the further peculiarity of being quite as large, and sometimes even larger, near their sources than they are at their points of termination. The Humboldt supplies a good example of this kind, it being considerably smaller where it enters the lake than it is two hundred miles above, throughout all which distance it can hardly be said to have a single tributary, not a stream of any size discharging directly into it, even in the wet season. As before stated, most of these streams, as well as the valleys through which they flow, are destitute of timber, the latter, with few and inconsiderable exceptions, being confined to the mountains. In the Reese River valley proper, nearly one hundred miles long, there is not a stick of timber large enough for a fence rail, many others, of equal extent, being quite as badly off in this respect. Without trees, and containing but little verdure, these immense valleys and plains present for the most part a very dreary and monotonous appearance, many of the latter justly meriting the appellation of desert, so often applied to them. The water in the creeks running from the mountains is always good, and, as in some of the ranges these are numerous and occasionally quite large, they become objects of importance, not only as supplying the ordinary wants of the inhabitants, but as furnishing the means for irrigation and a considerable amount of propulsive power, their descent being uniformly great. The narrow strips of alluvial land found along some of these mountain rills, as well as the bottoms at their mouths, are generally covered with a growth of scrubby trees, consisting of birch, willow, cottonwood, &c. All the lakes, as well as the larger and some of the smaller streams, contain fish, some of which, the mountain trout, are excellent. The fish taken in most of the lakes and along the lower portions of the streams, however, are of an inferior kind, or the better species deteriorated through the impurities of the water.

Springs—thermal, mineral, and otherwise.—In the matter of springs, Nevada is considerably better off than in regard to streams of running water, the former in some parts of the State being quite numerous, many of them, either as to size, temperature, or the composition of their waters, justly accounted geological curiosities. They occur at all attitudes and under nearly every peculiarity of condition, large and small, deep and shallow, cold, hot and tepid; in a state of ebullition and quiescence, impregnated with every variety of mineral and metallic substance, and perfectly pure. Sometimes they are found isolated, and at others standing in groups. Some send off steam and emit a gurgling or hissing noise, while others do neither. Some of these groups contain as many as forty or fifty springs, varying from one foot to thirty in diameter, and in depth from two feet to a hundred or more. In shape they incline to be circular.

The mineral and thermal springs are usually situated upon a mound or tumulus formed from the calcareous or silicious particles brought up and deposited by their own waters. These mounds often cover several acres, their summits being raised to a height of forty or fifty feet above the adjacent plains. In some cases the sides of the springs are formed of these limy or silicious concretions, raising them in huge basins several feet above the level of the mounds themselves, while in others they are composed simply of earth or turf. The water in most of them is soft and agreeable to the taste when cold, and so transparent that the minutest object can be seen on the bottom of the deepest spring; even the small orifices through which the water enters being distinctly visible. Fre-

quently a hot and a cold spring are situate so close together that a person placed between them may dip one hand into each at the same time. From most of them a small stream issues, the water in many merely keeping even with the top, while in others it does not rise so high. Occasionally one is met with that has already become extinct, a condition to which others seem rapidly, and perhaps all are gradually approaching. These fountains, both the thermal and mineral, are much used by the Indians as a cleansing or curative means, and there is little doubt but some of them possess rare medicinal virtues. Several of them have already become places of much resort with invalids, the sulphurous and chalybeate waters being found particularly efficacious in a variety of diseases. To the Steamboat springs, in Washoe county, the largest number have thus far repaired, more because of their greater accessibility than their superior sanitary properties. A few of these hot springs are subject to a tidal action, belching forth at times large quantities of water, followed by a subsidence that may last for months or years.

A chemical analysis of the waters of Steamboat springs shows them to contain in various proportions the chlorides of sodium and magnesium, with soda in different forms, lime, silica, and a small per cent. of organic matter. Similar tests made of the waters from other springs disclose nearly the same constituent salts, with the addition in some cases of sulphur and iron. Some of the cold springs, especially those found in the larger valleys, are quite as remarkable for their depth and dimensions as the thermals. It frequently happens that the streams from the mountains, after sinking, reappear in the form of springs along the sides or out in the middle of the valleys. Some of these are of but ordinary size, while others are immense pools, from twenty to eighty feet in diameter, and over one hundred feet deep, some of them sending off considerable streams of pure cold water. Not all the cold springs, however, are free from disagreeable or deleterious minerals; many of those found on the plains being highly offensive and injurious. From some of them even animals, though suffering with thirst, refuse to drink.

The salt beds.—These constitute not only a notable feature in the chorography, but also an important item in the economical resources of Nevada. There are a number of these salt fields in different parts of the State; they, like the alkali flats and mud lakes, being confined to the valleys and plains in which they cover the points of greatest depression, the most of them being adjacent to or encompassed by a belt of alkali lands. The heavier deposits are, no doubt, of lacustrine origin, occupying what were formerly the basins of inland seas or extended salt lakes. Their formation, it would seem probable, was brought about by the subsidence of these lakes through evaporation or other more violent causes, whereby the entire saline contents of their waters were collected and precipitated at these points, the strata of clay interposed between the different layers of salt being the result of floods occurring at various periods. Situate, however, in valleys from which the waters, having no escape, spread out over large surfaces and soon evaporate, leaving the salt and other solid substances with which they are charged behind, the formation of these saliniferous beds may, perhaps, be sufficiently accounted for by the agents and operations now in action, without presupposing the existence of others about which less is known. Of the considerable number found in the State, three of these beds at least merit special notice, because of the abundance and purity of their product, and the facility with which it can be gathered. That at Sand springs, Churchill county, seventy miles east of Virginia City, extends over several hundred acres, a portion of it being covered with water to the depth of a few inches. Under this is a stratum of pure coarse salt nearly a foot thick, and which only requires to be gathered in heaps or thrown on a platform in order to drain off the water, which is soon accomplished, when it is ready for sacking. Under this top layer is another composed of clay of equal, and, in places, of greater thickness

beneath which again occurs another body of salt, but of what magnitude is unknown, the ascertainment of this point being of no practical moment, inasmuch as the salt taken out above immediately reforms, the space soon filling up with new depositions from the super-saturated water. This bed is owned by a company who take out from it over half a million pounds of salt per month, the mills and reduction works about Virginia City obtaining their supplies here, and consuming the most of this large quantity, a little being ground up for table use. The company dispose of this salt ready for sacking at \$20 per ton on the ground, the freight to Virginia being about \$30. Having their own teams, however, they are able to deliver it at the mills for \$40 per ton, a sum considerably below what the freight alone would be for transporting the article from San Francisco, whence, for several years at first, it was wholly derived, the freights at that time varying from \$120 to \$180 per ton. At these prices, adding first cost—say \$12 per ton—many thousand tons were consumed by the mills in Nevada prior to 1863, when they began packing it in from the salt pools situate forty-five miles southeast of Walker lake, whereby the price was somewhat reduced. These pools, like the water at Sand springs, being super-saturated with salt, deposit it to a depth of several inches about their borders, renewing it in a short time when taken away. After the discovery of the bed at Sand springs, it being much nearer Virginia, salt ceased to be brought to that place from these pools, though the mills about Aurora still continue to obtain their supplies there. To the cheapened price of this community is the present diminished cost of reducing silver ores in Nevada somewhat due, the annual saving thus effected being in some of the larger establishments equivalent to a hundred thousand dollars or more.

About fifty miles north of Sand springs, being also in Churchill county, though near the line of Humboldt, is another and still more extensive salt bed than that already described, its superficial area being nearly twenty square miles. It does not differ, except in extent, from that at Sand springs; the water here also, instead of covering, coming only to within a few inches of the surface. At this place there is first an inch of dry white salt on top, then six inches of wet, overlying a stratum of tough mud, or blue clay, a foot and a half thick, and filled with cubical crystals of salt, some of them several inches square and bearing a strong resemblance to ice. Under this clay comes another layer of clean, coarse salt, reaching downward to an unknown depth. This field is also owned by a company who have erected a railway for running out, a platform for drying, and a house for storing their salt. Owing to its distance from the chief point of consumption, Virginia City, but little of this salt has been sent to that place, though the Humboldt mills and those at Austin, in part, have drawn from here their supply. Large as is this bed, it is surpassed by another situate in Nye, or possibly in Esmeralda county, the location of the boundary between the counties being not yet well settled. This deposit is about one hundred and twenty miles S. W. from Austin, and seventy miles in the same direction from Ione, the shire town of Nye county. This bed covers more than fifty square miles, over nearly all which the salt, clean, dry, and white, being the pure chloride of sodium, lies to a depth varying from six inches to two feet. This is the surface deposit, what there may be below never having been ascertained, nor does it matter, the amount in sight being ample to supply the wants of the whole world for centuries, could it but be readily furnished at the points where required; and though at present of so little avail, when railroads come to be extended into these regions, there is no doubt but salt can be shipped to California, and perhaps to more distant localities with profit. Though sold on the ground by the companies claiming these beds at one cent per pound, and sometimes for less, this salt should be afforded at a price scarcely more than the bare cost of gathering it up—in most instances a mere nominal sum. Upon the great saliniferous field of Nye county millions of tons could be shovelled up lying dry

and pure upon the surface to a depth varying from six inches to three feet, with most likely still more heavy bodies below. This, like the more limited beds elsewhere, is claimed by private individuals, either under some of the various land laws of the United States, or enactments of the State of Nevada, or perhaps by virtue of certain regulations similar to those adopted by the mining community, and which hitherto have constituted the tenure of their mining properties. As a means of guarding against combinations that might unduly enhance the price of a commodity so largely used and so indispensable in the reduction of silver ores, it might be expedient for the general government to take measures to prevent these salt beds being so completely monopolized by private parties, as is otherwise likely to be the case. Besides these more extensive beds, there are numerous plains upon which the salt is deposited to the depth of an inch or more by the process of efflorescence, the soil being damp and impregnated with saline matters to a greater or less degree. At these spots the salt, generally mixed with a small percentage of foreign matter, such as soda, lime, or magnesia, is gathered by simply scraping it in heaps upon the surface, which operation must be performed in the dry season, the smallest amount of rain causing it to dissolve and wholly disappear. It reforms, however, with fair weather, and when removed is speedily replaced by new depositions, being in this respect like the heavier beds, practically inexhaustible. This admixture of foreign matter does not seem to impair its value for the reduction of ores, though rendering it unfit for culinary uses. From one of these plains, situate in Big Smoky valley, forty-five miles south of Austin, the mills at that place and elsewhere in the Reese river region obtain their principal supplies of salt, it being furnished on the ground at one cent a pound; and as the average cost of hauling to the mills is not over twenty dollars per ton, the latter get this article at a comparatively moderate price. Upon these salt fields there are no signs of animal or vegetable life, though it is a singular circumstance, that coming up through the saline incrustation, near the edge of the largest of them, is a fine spring of pure cold water; similar springs being found either upon or in close juxtaposition to others. The deposits of salt in this region are not confined to these beds or plains; it sometimes occurs in elevated positions, the strata often, in the aggregate many feet thick, being imbedded in hills and mounds of such extent as to almost justify their being called mountains. One of these, situate in the newly created but not yet organized county of Lincoln, in the extreme southeastern corner of the State, covers an area of several thousand acres, the layers being composed of cubical blocks of salt, often a foot square, nearly pure, and as transparent as window glass. There are elsewhere in the State other mounds of salt, the strata separated by layers of earth, similar to this, but none, so far as known, of equal magnitude.

Lumber and fuel.—The only timber in the State capable of making really good lumber is that growing on the eastern slope and along the base of the Sierra Nevada mountains. A species of white pine is found in scattered groves on some of the mountains in the interior and eastern part of the State, but the trees are comparatively small, not more than two or three feet in diameter and forty or fifty feet high, the wood being soft and brittle. As we have seen, there is but little timber of any kind in the valleys, most of them containing none at all, while many of the mountains are equally destitute. The prevailing tree, where there is any east of the Sierra Nevada, is the piñon—a species of scrubby pine, having a low, bushy trunk, from six to twelve inches through and from fifteen to thirty feet high. Having a close fibre and being full of resin, it is heavy and burns well even when green, being equal to most kinds of hard wood in the amount of heat it gives out, and constituting a very valuable kind of fuel. Mixed with these forests of piñon there are sometimes a few juniper trees and mountain mahogany—neither of any service for lumber, though the latter, when dry, is an excellent fuel. Along most of the larger streams, as stated, there are

a few cottonwoods and small willows; while, in some of the mountain cañons, these, together with birch, ash, and cherry, are found, all, however, of a dwarfish growth, and, though serviceable for fencing, not of much use for making lumber. With such a scarcity of good timber the better qualities of lumber command high prices in most parts of Nevada. Thus, at Virginia City, though within eighteen miles of the best timber lands, the price varies from \$40 to \$60, according to kind and quality. The further we go east the higher the price runs; the same quality of lumber that can be bought at the mills in the sierra for \$20, in Carson for \$30, and in Virginia City for \$45, per thousand, costs \$120 in Austin, where, at the same time, that made from the white-pine growing in the vicinity can be bought for \$60, and fire-wood for a little more than half the price it is in Virginia. Much of the lumber employed in the erection of mills and the construction of machinery about Austin, as well as a large proportion of that used on other buildings in that place, has cost from \$120 to \$200 per thousand, it being considerably cheaper now than it was several years ago. Worthless as this piñon is for the purposes of lumber, many of the houses in the smaller towns in the interior are built of it—a face being hewn upon two sides of the stick, which is then set on end, the houses being constructed on the stockade plan. It is also used, where easily obtained, for building corrals, and to some extent for fencing; but, being hard and knotty as well as of small size, it requires much labor to prepare it for even the most common use. Wherever this tree is at all abundant, fuel can be obtained, delivered at the mills, for from \$4 to \$5 per cord, and sometimes a little less. In most parts of Churchill and Humboldt counties the price is higher, owing to the greater scarcity of timber or the difficulty of getting it down from the mountains. In Star City and Unionville, Humboldt county, juniper—a very poor kind of fuel—costs from \$10 to \$12 per cord. Where timber is scarce, sage-brush and other resinous shrubs—these being found nearly everywhere in the country—are used for fuel; even some of the mills, as the Sheba in Humboldt, and several others, having employed them wholly or in part for generating steam, for which purpose they answer very well, save the trouble of keeping the furnaces supplied, because of the rapidity with which they are consumed. In Virginia City and vicinity wood now costs from \$12 to \$16 per cord, the price varying with the quality. These are about the rates that have obtained there since the settlement of the place, though at times much higher have ruled when the season was inclement or the article scarce. Coal, or rather lignite, has been discovered at several places in the State, yet none of these deposits have as yet furnished more than a few hundred tons of fuel, nor have they thus far been sufficiently developed to determine their capacity and value in this respect. At Crystal Peak, on the Truckee, near the California line, a considerable amount of work has been done in the exploration of coal-beds supposed to exist at that point; and the prospect for finding there a large deposit of at least a moderately good fuel, is by experts considered encouraging. Beds of peat that burns well have also been found at one or two places in the State. A railroad—which can now be counted on as likely to be built within the next two years, connecting the Virginia mining district with the heavy forests of the Sierra Nevada—must tend to greatly diminish the cost of fuel and lumber, both of which are required in enormous quantities in the business of raising and reducing the ores, the erection of buildings, timbering the mines, &c.; the sums annually expended on this account, though scarcely so large now as formerly, amounting to over \$2,000,000, nearly one-half of which it is believed might be saved through the aid of a railroad. When the Central Pacific railroad, now in rapid progress of construction across the sierra, shall have been built down the Truckee river—as it is calculated it will be within a year and a half from this time—it will pass a point not more than sixteen or eighteen miles distant from Virginia City, which would be the length of a branch road required for connecting this place with the main trunk, and through it with the heavily

timbered mountains only six or eight miles west from the point of intersection of the two roads. The suggestions made with reference to the propriety of preventing a monopoly of the salt-fields by private individuals might perhaps be extended also to the wood-lands, more especially in the interior mining districts, where these lands are limited in extent, and where, although the requirements for fuel will probably be great, large tracts have already been secured in the manner alluded to by private parties or companies.

MINES AND MINERAL RESOURCES OF NEVADA.

Various minerals.—Not only the precious, but also many of the useful metals, as well as a large variety of mineral substances, are met with in the State of Nevada, nearly all of them widely diffused and some of the latter in such abundance as cannot fail to render them commodities of economic value when greater facilities shall exist for transporting them to the points of manufacture or consumption. Besides the saliniferous basins already described, ores of copper and iron rich in these respective metals; beds of sulphur, from some of which this mineral can be obtained quite pure, though generally mixed with calcareous or other foreign matter; deposits of lignite and possibly true coal, though, so far as explored, Nevada is not a strongly marked carboniferous region; cinnabar, gypsum, manganese, plumbago, kaoline and other clays useful for making pottery and fire-brick; mineral pigments of many kinds, together with many of the more important salts and varieties of alkaline earths; soda in all its combinations, nitre, alum, magnesia, &c., being encountered in nearly all parts of the State and frequently in great abundance. Platinum and tin have been found in small quantities, the latter as yet only in stream-works and never in place, galena, zinc, antimony, nickel, cobalt, arsenic, &c., frequently occurring in combination with silver and other metals. Limestone, granite, marble, and many other kinds of stone suitable for building purposes, with slate adapted for roofing, are common and in some instances easily obtained, the work of quarrying them being carried on above ground. The most useful material of this class consists of a species of sandstone and a volcanic rock, the former of a light gray and the latter of a reddish drab color, both of which occur in masses quite upon the surface, and when fresh from the quarry are so soft as to be easily wrought, though afterwards becoming so hard as to resist not only the influence of the atmosphere, but also a high degree of heat, some of this igneous rock being employed for smelting and roasting works, and even the manufacture of crucibles, with success. That iron could be manufactured to advantage in the interior of the State where the freights are high and the consumption of this article so considerable, is the opinion of those most conversant with the subject, and there is a strong probability that works of this kind upon a limited scale, at least, will be established there within a short time. One of the heaviest beds of iron ore yet discovered in the State is situated in the western part of Nye county, and though not far distant from an extensive body of piñon from which an excellent article of charcoal could readily be made, there is but little water and no good land or important mines in the immediate neighborhood; wherefore, although the ore is abundant, rich, and of supposed good quality, it is much to be questioned whether iron even of the more common kind, such as is used for dies, shoes, castings, &c., could be made here with profit, and consequently whether this ferruginous bed is at present of any practical importance. Upon some of the alkaline flats, as well as about certain springs and other localities, the carbonate of soda exists so pure and in such profusion that it, like common salt and other similar substances, must yet become one of the staple exports of the country. At present but a very limited use is made of this article, it being employed only by the laundrymen and soap-makers. There is now a small establishment at Carson City engaged in manufacturing sulphuric acid, the raw

material being procured from the sulphur bed near the Big Bend of the Humboldt river, about the centre of Humboldt county. That other salts and mineral substances, such as nitre, borax, alum, &c., will yet be found in this State in such quantities as will make them of practical value, seems probable, though not enough is yet known as to the extent of these deposits to warrant the expression of a positive opinion on this point. Nevada is rich in organic remains both animal and vegetable, some of the latter being of extraordinary size and beauty. Huge fragments of fossiliferous wood and even the entire trunks of large trees have been discovered lying upon the surface of the ground often in a state of high preservation. There are springs in different places, the waters of which being highly charged with silicious or ferruginous properties, are constantly carrying on this fossilizing process upon animal and vegetable matter immersed in or otherwise sufficiently exposed to their operation. No diamonds or other precious stones have, so far as is known, yet been discovered in Nevada, though opals and agates, the latter remarkable for variety and beauty, have been found at many places. Neither petroleum nor other mineral oil has thus far been met with in the country, nor do the indications, so far as observed, favor the supposition that they will ever be discovered in quantities hereafter, the bituminous, like the carboniferous signs throughout the State, being scanty and unsatisfactory.

Characteristic features of the Comstock ledge.—Taken as a whole, this ledge, discovered as already related, is not only by far the most valuable silver-bearing lode yet found in the State of Nevada, but equals, perhaps, any deposit of the precious metals ever encountered in the history of mining enterprise, its productive capacity, as now being developed, surpassing, if the mass of its ores do not in richness equal, those of the most famous mines of Mexico and Peru. Being then so important in itself, and holding such prominence among the mines of this State, a somewhat detailed description of its location, character, exploitation, and future prospects may not be out of place. This lode is situate in Storey county, about twenty-five miles from the western border of the State. It is found cropping out along the eastern slope of Mount Davidson, a lofty eminence in the Washoe range of mountains, which form a lower spur of the main sierra, with which it runs parallel, being separated therefrom by Washoe and Steamboat valleys. Mount Davidson, like most of the range of which it forms a part, is extremely dry and barren, containing but little water or grass, and at present no timber at all, the few scrubby pines that once grew upon its sides having long since disappeared. Its bulk, like that of the Sierra Nevada and most of the mountain ranges in this State, is composed of granite, though largely made up of serpentine, quartz, gneiss, sienite, talcose, calcareous and other primary rocks. Breccia, porphyry, trap, trachyte, argillaceous, and silicious, with nearly every kind of igneous and sedimentary rock, are common in the mountains of this State, some rich argentiferous lodes having been found in many of these formations. The summit of Mount Davidson is 7,827 feet above tide water, 1,600 feet above Virginia City and the Comstock lode, and more than 3,000 feet above the plain of Carson river at its base. The direction and comparative size of this lode, the length and relative position of the various claims upon it, and its situation with reference to Virginia City and Gold Hill, the principal towns in the neighborhood, will be more readily understood by consulting the accompanying diagram, illustrating these and other points of interest connected therewith. The strike of the principal or mother vein, the only one exhibited on this plat, is, as will be seen, about fifteen degrees west of south, the northerly and southerly extremities thereof bearing nearly due north and south. In width or thickness it varies on top from twenty to two hundred feet, the most of it ranging between thirty and seventy feet, with a uniform tendency to expansion as penetrated downwards. The ledge, at some points along its course, as in the grounds of the Savage and the Gould & Curry companies, and again at Gold Hill, spreads out beyond its average width, it reaching at the latter place its

greatest thickness, something over one hundred and fifty feet. In a vertical direction it undergoes a similar contraction and expansion, pinching at points to a few yards, or even feet, and again extending to its usual size. Though in spots appearing in high rocky projections, it does not show itself above ground throughout its entire length, there being considerable stretches where no outcrop is visible. That it preserves its continuity, however, below, seems probable, it having been found wherever searched after to any great depth. Nor has it proven prolific in ores throughout all its parts, there being a number of barren spaces along it, as in the ground extending from the Central to the Gould & Curry claim, some 1,400 feet, and at other points further south, in none of which have any considerable bodies of valuable ores been found, though explored to depths varying from three to five hundred feet. It is the opinion of geologists that within these hitherto unproductive spaces paying ores will yet be reached, though not, perhaps, until much greater depths have been attained.

In this as in most large and fruitful silver-bearing lodes the valuable ores, though generally diffused throughout the mass of the gänge or vein-stone, are still found to be more abundant in certain portions thereof called bonanzas or chimneys, which latter, as they usually have a pitch lengthwise the lode, must, according to their position, often run out of the ground of one company into that of another adjoining, leaving the one comparatively poor and enriching the other. Under this arrangement it might happen that one of these barren spots, by a bonanza striking into it at a greater depth, should be rendered productive, it being, moreover, liable to become so without reference to this system of distribution of ores, not by any means a feature of all mines. In its upper portions the Comstock lode dipped to the west at an angle of about sixty degrees, this angle in places being much larger, and at some points approximating ninety degrees. At greater depths, varying from one to three hundred feet, the ledge after gradually assuming a perpendicular position is now, at the depth of seven hundred feet, found pitching to the east at an angle of about fifty degrees, the inclination varying somewhat at different points along its line. In the development of this lode, which is now conceded by all competent judges who have examined it to be a regular fissure vein of the largest size, the usual contractions, faults, and displacements common in this class of veins have been encountered, and though causing much hindrance and extra labor, and at times giving rise to no little doubt and discouragement, they have in no case destroyed the continuity of the vein or caused it to be wholly lost sight of. Dykes of trap and other indurated rock have interposed at many points to check the work of exploration, while elsewhere imbedded within the mass of the lode have been found immense fragments of wall rock or other foreign matter barren of ore, causing much trouble and tending to depreciate for the time being the value of the mines. But in nearly every instance such obstacles have been overcome, these rocky barriers being penetrated, and these bodies of worthless material disappearing before the persistent efforts of well-applied labor.

The Comstock ledge has now been clearly traced and identified for a space, measured in a straight line, of a little more than one mile and a half, throughout which it has been found continuous and sufficiently rich in the precious metals to render the entire body of the ore-bearing portions of the vein remunerative, with the exceptions already pointed out. This space extends from the larger section of the Ophir company's claim, on the north, to that of the Belcher, and possibly of the Uncle Sam, on the south, some of the rich silver sulphurates characteristic of the mother lode having been found in the latter, though not at the depth yet reached, in large quantities. As stated, the rich ores have been found in some cases, as in the Ophir and Mexican grounds, and at Gold Hill, quite upon the surface, while in others it has only been reached at depths varying from fifty to five hundred feet. In the Gould & Curry claim very fair, though not what was then considered pay-rock, was met with in the outcroppings of the

ledge, the millable ores not being obtained until a depth of nearly one hundred feet was reached.

In the ground of the Savage company, adjoining on the south, they were not reached until a much greater depth had been attained, while in that of the Hale and Norcross company, lying next, nothing worth putting through the batteries was met with until their shaft had, at great expense, been sunk to a vertical depth of more than 500 feet. In the Alpha, Yellow Jacket, and Crown Point claims, no heavy masses of millable ores were met with until they had been penetrated downward from one to three hundred feet, while, as before intimated, in the space between the claim of the Gould & Curry and that of the Central company, as also throughout a stretch of some hundred feet adjoining the ground of the Chollar-Potosi company on the south, and perhaps, also, in a like space similarly situated with reference to the Belcher ground, no metalliferous deposits of magnitude or value have thus far been developed. Much labor and money have been expended in efforts to trace the prolongation of the Comstock ledge, both to the north and south, of what are considered, in a productive sense at least, its present termini; but only with the results heretofore indicated, nothing of permanent value having been struck along the supposed line of its course, or adjacent thereto, beyond these points. Quartzose ledges exist in abundance, both to the north and south within the belt the Comstock is presumed to occupy, if it have an existence outside its present known limits; but none of these, nor yet any of the numerous lateral ledges in close proximity to the developed section of the mother vein, and by some considered a portion of it, have yielded more than a very insignificant percentage of the precious metals, nor are the present prospects of these properties such as to command for them other than mere nominal prices in the mining share market, many, that a few years ago sold readily at high prices, being no longer salable at all. Most of the ledges running parallel with the productive portion of the Comstock, and within one or two hundred feet of the latter, have been the cause of much expensive litigation, the owners of the main lode claiming them as belonging to it under the theory that they would all unite at some point, probably at no great depth beneath the surface; a view that the courts have been inclined to sustain and that experience tends to sanction.

The greatest vertical depth to which the Comstock ledge has been developed is a little more than seven hundred feet, there being several shafts along it from four hundred to seven hundred feet deep, with many others varying in depth from two hundred to five hundred feet, while some tunnels now under way, and soon most likely to be completed, will strike it at a still greater depth. The Sutro tunnel already projected, with a good prospect of being finished in the course of four or five years, will strike it at an estimated depth of eighteen hundred feet below the croppings of the Gould & Curry company, the highest point upon it. This work, according to the plan proposed, is to be twelve feet wide and ten feet high, so as to admit of a double train-way. It will be nineteen thousand feet long, cost between four and five millions of dollars, and when finished will enable this lode to be worked with probable profit to a depth of three thousand feet or more. The proprietor of this tunnel, which it is believed will soon become an urgent necessity, proposes to tax the different companies upon the Comstock ledge at the rate of two dollars for every ton of ore raised after the work is completed, and they are actually enjoying the benefits of having their mines drained thereby. The work, though formidable, is greatly inferior, both in cost and magnitude, to several others of a similar kind already completed, or under way, for securing deep drainage to various mines in Europe. In the year 1850 surveys were made for a tunnel in the Harz mines, Brunswick, to be nearly fourteen miles in length, and which it was estimated it would require twenty-two years to finish. Work was commenced upon this tunnel in July, 1851, and completed in June, 1864, the time required for its construction being less than thirteen years. The product of these mines is only about half a

million dollars in gold and silver, per annum, and the additional drainage secured by this work was but three hundred feet, items quite insignificant compared with the annual yield of the Comstock lode, and the depth of drainage to accrue from the construction of the Sutro tunnel. A tunnel some fifteen miles in length, designed to drain the principal mines at Freiberg, Saxony, has been in progress of excavation for several years, forty more being expected to insure its completion; nor does this work deepen the present drainage upon those mines to anything like the extent attained by the Sutro tunnel. Already a number of extensive tunnels have been commenced, designed to intersect the Comstock lode at depths varying from five hundred to one thousand feet beneath the surface. Some of these, after being partially completed, have been abandoned; upon others work has been suspended at different stages in their progress; while upon a few operations are still being vigorously prosecuted, with the prospect of an early consummation. Some of the shafts now being sunk it is proposed to carry to a depth of twelve or fourteen hundred feet, powerful pumping and hoisting works being provided for the purpose.

Character, quantity, value, and distribution of ores in the Comstock ledge.—

The great body of valuable ores contained in the Comstock ledge consists of the black and gray sulphurets of silver, several other varieties having been met with in small quantities, more especially near the surface. Native silver is found diffused throughout all parts of the vein; and while no large masses have been obtained, many handsome specimens have been gathered from the various claims, the aggregate value of all the virgin metal taken out being quite large. Combined with this ore is a small amount of the baser metals, such as the sulphurets of antimony, lead, iron, copper, &c. These are present, however, only in limited quantities, this ore being remarkable for its freedom from these and similar substances; hence one of the elements of its comparatively cheap reduction. Associated with the silver is a notable percentage of gold, the bullion extracted during the earlier working of the mines containing a larger portion of it than at a later period when, through improved machinery and processes and a more careful manipulation of the ores, the silver was more closely saved. At Gold Hill the bullion extracted at first was worth from six to eight dollars per ounce; now it is reduced to between two and three dollars, that from most other points along the Comstock lode being worth still less, owing to the heavy alloy of silver it contains. The deeper the mines at Gold Hill are worked the more the metal tends to silver. By simply crushing and amalgamating, from seventy to ninety, on an average more than eighty, per cent. of all the precious metals contained in the great mass of the Comstock ores can be extracted, thereby dispensing with the troublesome and expensive process of roasting or smelting, to which only a small quantity of the extremely rich or more obdurate ores are subjected. The mass of rocky matter enclosed between the walls of this ledge is not found to be ore-bearing throughout all its parts. In spots it is quite barren, the ores being collected in streaks or bunches, leaving the balance so entirely destitute of metal, or only so slightly impregnated therewith, as to render it not worth raising. In other places the metalliferous ores are generally diffused throughout the vein-stone, being here usually of a lower grade than where occurring in a more concentrated form. This lode, having been found remarkably rich at two or three spots quite upon the surface, and these happening to be the points where practical operations were first initiated, led at the outset to very exaggerated notions of its probable wealth, and a consequent overrating of its prospective value; a circumstance to which much of the wild speculation, as well as many of the misapprehensions and mistakes, that subsequently characterized the management of these mines, as well as the financial operations connected therewith, may be justly attributed. Under the excitement of the moment, and through the general ignorance prevailing in regard to the nature of silver mines, it was inferred that these bonanzas would not only be of frequent occurrence and extend indefinitely downwards, but that the entire body of the lode would

become larger and more productive the further it was penetrated in that direction; a supposition which, it is needless to say, subsequent experience has failed to confirm, most of these rich accumulations of ore having been exhausted at no great depth, and the ledge generally, though increasing somewhat in thickness as descended upon, having undergone no corresponding increment in the volume of the ores, or in the average yield of the precious metals. From many of the mines along the line of the Comstock there is at present a much greater amount of ore being raised than formerly, because of greater facilities for hoisting, and because a much lower grade of ore is now being worked than aforetime. In the earlier stages of mining at this place large bodies of metalliferous rock were left untouched in the upper levels, being then thought too poor to justify removal. Many of these, as well as thousands of tons of rejected rock thrown upon the dump piles, have since been sent to the mills and, with the present cheapened means of reduction, found to pay a profit; and thus it is, that while the average yield of the precious metals to the ton of ore has been steadily diminishing, the aggregate annual product of bullion from these mines underwent a rapid increase until three years ago, since which time it has been maintained at about the same point, the amount being about fifteen million dollars per annum. For the first two or three years after they were opened, the argentiferous ores taken from this ledge yielded from one to three hundred dollars per ton; the average of all worked being over one hundred and fifty dollars, while some small lots carefully selected went much higher, ranging from five hundred to two and even three thousand dollars to the ton. But the quantity of this class was limited, and it is probable that nearly as much equally rich ore could now be procured by carefully culling the entire mass taken out. These rich parcels were generally sent abroad for reduction, or sold in San Francisco to the dealers in metalliferous ores, who carried them to Europe—mostly to Swansea—for treatment.

To illustrate more clearly the depreciation that has gradually taken place in the value of these ores, or, rather, the manner in which, through the agency of cheapened and more efficient modes of treatment, the working of those of lower grade with profit has been constantly increased, we may take the case of the Gould & Curry company, which fairly represents the experience of most others in this particular. This company, during the four years extending from 1862 to 1865, inclusive, extracted from their claim the following numbers of tons of third-class ore, being the bulk taken out, with the average results stated, viz: 1862, 8,427 tons; average yield per ton, \$104 50; 1863, 43,907 tons; average, \$80 44 per ton; 1864, 55,602 tons; average, \$73 48 per ton; 1865, 46,745 tons; yield, \$45 41 per ton. For the year 1866 the amount of ore raised will probably not differ much from that of last year, while the yield per ton will be somewhat less. During these four years this company took out, in addition to the foregoing, fifty-two tons first-class ore that averaged \$1,800 to the ton, and 14,103 tons second-class that averaged \$234 to the ton, while one or two mines are doing better. The average yield of the leading mines on the Comstock ledge will not at present go much if any above \$40 per ton; while that from the more auriferous claims at Gold Hill will scarcely yield \$30. With the poverty of the ores the profits of the mine, of course, diminish, it costing but little more to work moderately rich than it does poor ores. The total number of tons of ore raised from all the mines on the Comstock ledge will reach and perhaps exceed one million and a half. The amount of ore extracted from the various mines depends upon their magnitude, the facilities for raising them, and the energy with which they are pushed. Most of the larger claims are now taking out at the rate of from twenty to fifty thousand tons per annum, and one or two at a still larger rate. The total amount of ore extracted from all the claims situate on the Comstock ledge may be roughly estimated at something over one and a half million tons.

Cost of mining, hauling, and reduction of ores.—These several items of expense vary considerably with circumstances. In estimating the cost of raising or mining the ores it is customary to include that of constructing, hoisting, and pumping works, timbering the mines, &c., as well as of the actual labor of extraction. The cost of mining the ores on the Comstock ledge averages at present about \$14 per ton, the price varying from \$10 to \$20. For transporting the ores from the mine to the mill the cost is at the rate about \$1 per ton for every mile the ore is carried, unless the distance be long, when it is less. Hauling the shortest distance usually costs \$1 per ton. Where contracted for in large lots, teamsters haul from Virginia City to Carson river, seven miles, for \$4 per ton. Ores treated by simple crushing and amalgamation, as most of those taken from the Comstock ledge are, can be reduced at a cost varying from \$10 to \$16 per ton, the average price being about \$14. The auriferous ores at Gold Hill, which require but few expensive chemicals, do not cost over \$8 or \$10 per ton. Where water-power is used instead of steam the expense is about \$3 per ton less, these all being reductions of from thirty to seventy-five per cent. on the prices that prevailed a few years ago. Where dry-crushing with roasting or smelting is adopted the expense is two or three times as great as by the above method. Not more than one-twentieth, if at present so large a proportion, of the ores from the Comstock mines are treated by dry-crushing, though upon a larger share of those taken from the ledges in the interior this plan could be adopted with advantage, the most of them requiring roasting or smelting. To the above rates, except in the item of hauling ores to the mills, which is about the same, there must be added, where these several operations are carried on in the outside districts, from fifty to one hundred per cent., the price of labor as well as most kinds of material being that much dearer there than about Virginia City. Extracting the ores from some of the extremely narrow ledges in these localities often costs four times as much per ton as from the claims on the Comstock lode, so much dead work being required to secure a small amount of ore from the former.

Annual and total product of bullion extracted from the Comstock ledge.—Assuming the gross amount of ore taken from the Comstock lode to have been one and a half million of tons, a rather low estimate, and supposing it to have yielded at the rate of forty-four dollars per ton, the present average being less than \$40, we have a total bullion product of \$66,000,000, reckoning to the end of the present year. That this estimate of the gross product is not far out of the way, the following table exhibiting the annual yield of all the mines in Nevada tends to establish. These figures are for the most part derived from authentic sources, and although they embrace the yield of all the mines in the State, we have only to make a deduction of about five or six per cent. for the outside districts, the balance being justly credited to the Comstock lead :

1859.....	\$50, 000
1860.....	100, 000
1861.....	2, 275, 000
1862.....	6, 500, 000
1863.....	12, 500, 000
1864.....	16, 000, 000
1865.....	16, 800, 000
1866.....	16, 500, 000

*70, 725, 000

* The above estimate as stated is derived from authentic sources, but it differs somewhat from the estimate made by the surveyor general of Nevada given in section 3, clause 33. with which it may be compared, as well as with the total yield reported by the principal companies on the Comstock lode as given in clauses 35, 36, 37, 38, 39, 40, 41, and 42 in section 3.

An allowance of five millions of dollars would undoubtedly cover the product of all the outside mines, making that of the Comstock vein to be, as above, nearly \$66,000,000. The rate at which this lode has been yielding heretofore can, in all likelihood, be kept up for an indefinite period to come, there being no example in the history of silver mining of a vein of this magnitude and character being exhausted or giving out, though many have been worked steadily for centuries and in some instances to depths three or four times as great as that yet reached on any part of the Comstock lode. The yearly turn out of these mines could easily be enlarged, as it no doubt will be hereafter, when new levels shall be opened or new claims be brought to a productive condition, and additional works shall be supplied for raising and reducing the ores. That their annual product will be augmented to twenty millions or more, in the course of a few years, seems quite likely. It could even, with the present means for extracting the ores, be increased several millions yearly were the leading companies disposed to employ a larger number of custom mills and to adopt the rushing and exhaustive system in vogue a few years ago; but which, while it secured large aggregate returns, was found to be attended with great waste and to tend to a rapid depletion of the mines. As a return to this plan cannot therefore reasonably be looked for, the anticipated increase of bullion may be expected to grow out of the causes above mentioned, in conjunction with a more economical and perhaps efficient reduction of ores, whereby those of a lower grade than are now worked can be treated with profit. The annual yield of none of the older claims has been as large for the past two years as it was for two or three years previous to that time, the deficiency being supplied by several new claims that have since become productive, such as the Hale & Norcross, Crown Point, and others. Thus the Gould & Curry company, whose mine did not begin to turn out bullion in any quantity until 1862, produced that year \$858,819, in 1863 \$3,887,755, in 1864 \$4,921,516, and in 1865 \$2,401,060, the product the present year being about the same as last. The entire amount of the precious metals taken from this mine, calculating to the end of the year 1866, amounts to about fourteen and a half millions of dollars. From the Savage mine there has been extracted during the same time about \$4,500,000, the total yield for the year ending July 10, 1866, having been \$1,256,663. The Hale & Norcross, which only lately began to yield largely is now producing at the rate of about \$1,500,000 per annum. The product of the Imperial mine at Gold Hill was, for the year ending May 31, 1865, \$854,630. For the last year it has not yielded so largely, the same remark being applicable to most of the formerly highly productive mines near it, as well as to many others near Virginia City, such as the Ophir, Mexican, Central-Chollar, Potosi, &c., from none of which has there been anything like the amount of bullion extracted the last two years that there was for the two years preceding, while upon one or two of them labor has nearly ceased. The cause of this falling off is not so much in the poverty of the mines themselves, some of which have been amongst the most prolific on the Comstock lead, and are still known to be rich, as in a lack of energy on the part of the owners in failing to provide the means for draining them of water and a renewal of prospecting operations. On some of these mines work has been suspended until more powerful machinery for hoisting and pumping can be supplied, while in a few other cases it has been for want of adequate means to go on, or because the small amounts of good ore at one time obtainable in the mine having given out, the owners have become discouraged or concluded to discontinue operations until the adjacent mines have been drained and explored.

Accruing profits, dividends, losses, disbursements, &c.—Of the net profits that have accrued to the owners of the mines upon the Comstock ledge, taking them as a whole, it is impossible to make any accurate computation. In many of the more valuable claims but little capital was at first invested, the owners being

the original locators, or purchasing them from the latter for small and often mere nominal prices. This was more particularly the case with the numerous small but extremely rich claims at Gold Hill, as well as the Ophir and Mexican near Virginia City. At first there were no taxes of any kind upon the product of these mines; the body of ore was large, exceedingly rich, easily extracted—thousands of tons being found in the croppings above ground—and the most of it capable of being reduced at a comparatively small cost; wherefore the profits to the owners, or at least to such of them as had come by these properties cheaply, were, during the first three or four years, not only steady, certain, and large, but in many cases enormous; and had better judgment been exhibited at that period in working the mines, and more caution in properly securing their titles, or had greater economy in the expenditure of their proceeds, been observed by the owners, much of the disaster, loss, and, in some instances, final ruin that overtook both might have been avoided. For the development of these mines and the working of the ores few assessments were ever required, the most of them being not only self-sustaining but dividend-paying from the start. Prior to the erection of steam-mills the argentiferous ores were sold and sent out of the country for reduction, the auriferous rock at Gold Hill being worked by arrastras, a slow method, but one that answers well where the rock is rich, and simple crushing and amalgamating serves the purpose. Another advantage at this early day was, the mines were mostly owned by single individuals, or two or three at most, acting as partners, and not by large incorporated companies; and thus a source of much wastefulness and mismanagement, not to say speculation and fraud, was guarded against. So large was the income from some of these claims at Gold Hill during the period we are considering that they readily commanded from five to fifteen thousand dollars per foot, the net monthly profits derived from them varying from five hundred to three thousand dollars per linear foot. In some cases persons owning but ten feet enjoyed from this source an annual revenue of more than twenty and even approximating thirty thousand dollars. Nor were these princely revenues confined to the claims in Gold Hill, proper, (a mound of quartz some three or four hundred feet in length;) the proprietors of the Mexican and Ophir for a time fared nearly as well. This temporary productiveness of the mines, leading, as has already been observed, to the subsequent high prices and extravagant notions of their prospective value, which in turn caused the undue excitement and over-speculation that culminated, on several distinct occasions not far separated, in general disappointment and loss. How frequent and extensive these losses have been may in some measure be gathered from the following tables exhibiting the fluctuations in the prices of such mining stocks as have been generally dealt in by the board of brokers, and which, although they do not embrace all the productive mines in the State, sufficiently indicate the fate that at one time or another has overtaken a large majority of them.

Name of company.	July 10.	July 20.	July 30.	Aug. 10.	Aug. 20.	Sept. 1.	Sept. 10.	Sept. 20.	Oct. 1.	Oct. 10.	Oct. 20.	Nov. 1.	Nov. 10.	Nov. 20.	Dec. 1.	Dec. 10.	Dec. 20.	Jan. 1.
Gould & Curry... per ft.	\$1,600	\$1,550	\$900	\$1,600	\$1,400	\$1,475	\$1,250	\$1,100	\$1,300	\$1,380	\$1,610	\$1,650	\$1,335	\$1,450	\$1,600	\$1,425	\$1,520	\$1,590
Ophir.....do.	725	670	425	450	500	490	460	300	350	355	455	415	435	420	425	285	430	375
Savage.....do.	1,150	1,100	750	1,300	1,300	1,300	1,280	1,225	1,400	1,800	1,850	1,900	1,800	1,825	1,830	1,625	1,725	1,600
Postel.....do.	900	1,000	925	875	900	890	800	690	720	790	750	850	825	800	725	580	665	700
Chollar.....do.	425	300	300	325	475	550	650	660	690	880	950	1,000	1,000	990	1,025	965	1,030	1,050
Hale & Norcross.....do.	350	310	310	350	300	450	425	240	350	350	465	490	1,000	545	400	325	390	260
Sheba.....do.	70	50	40	25	20	80	95	75	70	67	65	62	53	40	19	11	8	36
Daney.....do.	50	45	30	35	.....	35	30	.....	20	.....	27	28	20	22	22	20	25	.....
Wide West.....do.	8	7	20	17	18	20	31	27	35	28	26	28	23	14	17	13	21	16
Burning Moscow.....do.	15	13	12	15	18	20	19	27	60	62	72	37	40	50	55	39	35	28
Pride of the West.....do.	3	2	.....	2	.....	2	.....	2	8	6	7	7	8	6	.....	5	.....	.....
Bullion.....do.	50	50	40	30	.....	.....	40	40	55	80	110	145	155	168	162	162	118	115
Real del Monte.....do.	15	12	11	15	18	14	15	19	35	25	25	24	25	20	.....	.....	.....	15
El Dorado.....do.	10	10	8	10	12	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Overman.....do.	200	.....	250	225	.....	150	175	160	.....	185	165	165	130	135	75	80	.....	120
Sierra Nevada.....do.	20	15	16	15	.....	10	22	30	.....	20	42	50	45	47	46	.....	25	20
Yellow Jacket.....do.	700	600	450	400	450	375	400	575	600	725	800	970	950	925	875	900	820	765
White & Murphy.....do.	300	300	.....	.....	.....	.....	.....	.....	.....	25	30	.....	40	25	.....	.....	.....	.....
Sides.....do.	200	200	.....	.....	175	.....	.....	.....	.....	20	.....	.....	.....	.....	.....	.....	.....	.....
Uncle Sam.....do.	400	350	250	190	210	200	200	.....	200	350	210	190	180	200	150	145	150	170
Baltic.....do.	40	22	15	13	13	16	24	23	22	30	31	20	18	20	25	20	20	15
North American.....do.	62	54	30	30	25	25	25	30	25	55	40	.....	40	.....	28	.....	.....	.....
Baltimore American.....do.	42	35	30	32	20	20	15	25	.....	25	26	.....	.....	.....	.....	.....	.....	.....
Melones.....do.	10	12	9	13	17	13	13	13	.....	13	12	65	8	10	10	8	15	.....
Antelope.....do.	65	70	50	.....	.....	14	12	20	15	20	45	.....	100	.....	60	55	70	50
Napoleon.....do.	65	60	45	.....	50	60	.....	.....	.....	75	.....	70	.....	65	65	60	60	.....
Sacramento.....do.	.....	20	.....	.....	.....	.....	.....	5	.....	.....	.....	.....	.....	.....	.....	12	.....	.....
Utah.....do.	18	15	18	15	.....	.....	.....	5	.....	5	6	5	.....	5	.....	5	5	5
Lady Bryan.....do.	10	4	5	4	5	5	7	6	9	6	6	3	3	4	2	2	5	6
Imperial.....do.	.....	.....	.....	.....	.....	.....	.....	.....	.....	149	151	155	148	145	122	123	118	120

Table showing the fluctuations in mining shares from January 1, 1865, to June 20, 1865.

Name of company.	Jan. 1.	Jan. 10.	Jan. 20.	Feb. 1.	Feb. 10.	Feb. 20.	Mar. 1.	Mar. 10.	Mar. 20.	Apr. 1.	Apr. 10.	Apr. 20.	May 1.	May 10.	May 20.	June 1.	June 10.	June 20.
Gould & Curry...per ft.	\$1,590	\$1,480	\$1,500	\$1,550	\$1,565	\$1,825	\$1,750	\$1,960	\$1,900	\$2,010	\$2,015	\$1,075	\$1,800	\$1,480	\$1,600	\$1,525	\$1,625	\$1,645
Ophir.....do	375	300	300	325	365	.....	385	440	450	530	590	560	500	490	550	485	480	500
Savage.....do	1,600	1,640	1,600	1,650	1,565	1,620	1,615	1,805	1,750	2,000	2,025	2,020	1,600	1,375	1,300	1,100	1,150	1,420
Potosi.....do	700	700	750	750	750	.....	750	885	900	1,130	915	870	750	425	337	202	312	437
Chollar.....do	1,050	1,000	1,020	990	810	910	715	585	700	705	842	830	680	425	375	215	317	473
Hale & Norcross.....do	260	210	220	245	260	235	240	330	350	472	625	600	450	400	455	440	400	650
Sheba.....do	36	30	.....	.....	.....	.....	.....	20	21	28	.....	30	28	.....	20	18	15	13
Daney.....do	.....	12	14	.....	.....	.....	10	45	25	16	15	.....	20	.....	22	15	15	15
Wide West.....do	16	13	8	7	6	.....	.....	14	25	13	17	16	10	9	7	5	4	3
Burning Moscow.....do	28	22	24	35	66	64	53	49	34	37	38	50	47	41	45	40	46	57
Pride of the West.....do	.....	.....	.....	.....	.....	.....	.....	8	5	3	.....	.....	.....	.....	.....	.....	.....	.....
Bullion.....do	115	105	75	78	60	115	110	115	110	110	135	151	150	153	152	135	130	105
Real del Monte.....do	15	.....	12	10	.....	.....	.....	12	16	12	14	.....	.....	.....	.....	12	10	.....
El Dorado.....do	.....	.....	.....	.....	.....	.....	.....	10	5	6	.....	.....	.....	.....	.....	.....	.....	.....
Overman.....do	120	100	90	.....	130	245	200	350	300	305	325	300	245	240	130	115	100	150
Sierra Nevada.....do	20	35	35	23	13	17	18	22	23	18	26	22	16	17	14	14	12	14
Yellow Jacket.....do	765	810	865	976	1,480	1,475	1,780	2,350	2,650	2,570	2,500	2,400	2,070	1,515	1,550	1,400	1,320	1,150
White & Murphy.....do	.....	.....	.....	.....	.....	.....	.....	50	25	15	.....	.....	.....	.....	.....	.....	.....	.....
Sides.....do	.....	.....	.....	.....	.....	.....	.....	100	50	25	.....	.....	.....	.....	.....	.....	.....	.....
Uncle Sam.....do	170	180	210	270	350	275	325	370	325	330	320	285	250	245	200	115	100	155
Baltic.....do	15	.....	.....	22	.....	.....	.....	20	22	20	15	.....	20	.....	25	30	28	25
North American.....do	.....	.....	.....	15	15	29	31	44	41	32	34	.....	.....	.....	.....	.....	.....	.....
Baltimore American.....do	.....	.....	.....	.....	.....	.....	.....	20	20	21	.....	.....	.....	.....	.....	.....	.....	.....
Melones.....do	.....	.....	.....	.....	.....	.....	.....	10	5	3	.....	.....	.....	.....	.....	.....	.....	.....
Antelope.....do	50	.....	.....	.....	.....	.....	.....	20	15	20	23	.....	.....	.....	.....	.....	.....	.....
Napoleon.....do	.....	.....	.....	.....	.....	.....	.....	50	55	50	.....	.....	.....	.....	.....	.....	.....	.....
Sacramento.....do	.....	.....	.....	.....	.....	.....	.....	10	5	8	.....	.....	.....	.....	.....	.....	.....	.....
Utah.....do	5	.....	.....	.....	.....	.....	.....	5	5	3	.....	.....	.....	.....	.....	.....	.....	.....
Lady Bryan.....do	6	8	8	.....	.....	.....	9	13	8	11	.....	.....	.....	.....	.....	.....	.....	.....
Imperial.....do	120	120	128	120	135	.....	150	145	192	200	213	205	285	282	235	134	175	217
Crown Point.....do	.....	650	650	700	720	900	1,070	1,400	1,450	1,400	1,360	1,170	1,000	1,000	885	725	780	750
Belcher.....do	.....	.....	975	980	1,025	1,180	1,250	1,650	1,600	1,600	1,800	1,620	1,210	1,200	1,105	925	630	600

Table showing the fluctuations in mining shares from June 20, 1865, to November 20, 1865.

Name of company.	June 20.	July 1.	July 10.	July 20.	July 30.	Aug. 10.	Aug. 20.	Sept. 1.	Sept. 10.	Sept. 20.	Oct. 1.	Oct. 10.	Oct. 20.	Nov. 1.	Nov. 10.	Nov. 20.
Gould & Curry..... per foot.	\$1,645	\$1,750	\$1,750	\$1,730	\$1,500	\$1,500	\$1,475	\$1,135	\$1,300	\$1,240	\$1,250	\$1,000	\$1,015	\$1,010	\$1,100	\$875
Ophir..... do.....	500	495	485	530	425	400	390	280	385	415	340	515	389	425	392	340
Savage..... do.....	1,425	1,375	1,400	1,310	1,175	1,220	1,300	1,300	1,225	1,215	1,225	1,075	930	800	765	625
Potosi..... do.....	407	332	350	395	480	465	460	440	420	410	472	455	355	350	308	270
Chollar..... do.....	473	345	370	410	500	490	500	475	455	420	500	480	370	375	308	270
Hale & Norcross..... do.....	650	560	555	570	525	520	510	480	520	550	750	475	325	305	205	155
Sheba..... do.....	18															
Daney..... do.....	15	14		14		50	70	43	40	40	35	30	15	10	15	8
Wide West..... do.....	3	7	8	6							6					
Burning Moscow..... do.....	57	34	29	25	29	25	34	23	20	5						
Pride of the West..... do.....																
Bullion..... do.....	165	140	175	180	175	157	175	160		125	126	125	70	62	57	38
Real del Monte..... do.....																
El Dorado..... do.....	120	180	342	305	200	241	213	190	135	170	175	150	100	95	62	42
Sierra Nevada..... do.....	14	15	10	14	25	20	18	19	22	21	17	22	12	10	12	8
Yellow Jacket..... do.....	1,150	1,090	1,015	1,105	1,220	1,350	1,355	1,420	1,460	1,405	1,345	1,110	720	780	670	620
White & Murphy..... do.....																
Sides..... do.....			75	60												
Uncle Sam..... do.....	155	185	345	307	190	240	215	193	185							
Baltic..... do.....			20	16												
North American..... do.....	25	28	35	42	35	30	29	24	16							
Baltimore American..... do.....																
Melones..... do.....																
Antelope..... do.....																
Napoleon..... do.....																
Sacramento..... do.....																
Ufab..... do.....																
Lady Bryan..... do.....			6	6		6	3									
Imperial..... do.....	217	238	245	218	227	230	255	252	250	221	232	210	174	183	157	150
Crown Point..... do.....	750	765	800	910	905	990	1,250	1,115	1,130	1,150	1,130	1,025	750	760	720	830
Belcher..... do.....	695	780	775	850	805	860	865	875	900	910	875	630	400	485	400	300
Alpha..... do.....		1,450	1,400	1,470		1,425	1,500	1,925	1,950	2,100	2,200	1,700	1,000	1,010	790	930

Table showing the fluctuations in mining shares from November 20, 1865, to June 29, 1866.

Name of company.	Nov. 20.	Dec. 1.	Dec. 10.	Dec. 20.	Dec. 30.	Jan. 10.	Jan. 20.	Feb. 1.	Feb. 10.	Feb. 20.	Mar. 1.	Mar. 10.	Mar. 20.	Mar. 31.	Apr. 10.	Apr. 20.	May 1.	May 10.	May 21.	May 30.	June 9.	June 20.	June 29.
Gould & Curry . . . per ft	\$875	\$975	\$940	\$850	\$925	\$885	\$825	\$850	\$825	\$1,060	\$925	\$1,000	\$1,050	\$1,050	\$950	\$875	\$850	\$890	\$850	\$730	\$745	\$800	\$700
Ophir	340	370	250	350	370	345	400	435	435	440	425	750	650	740	700	725	600	530	365	362	300	285	210
Savage	625	670	650	960	830	700	830	890	920	900	890	1,060	1,020	1,055	1,100	1,050	1,000	1,010	900	900	875	970	900
Potosi	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do
Chollar	270	249	130	125	176	139	224	395	278	322½	367	390	386	370	385	310	308	325	295	290	200	185	183
Hale & Norcross . . .	155	150	170	125	280	240	315	825	940	980	1,200	1,090	1,020	1,010	990	950	920	960	957	970	960	1,100	1,275
Sheba	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do
Danay	8	do	do	do	do	do	do	do	8	do	7	15	13	do	do	do	10	9	10	10	8	do	do
Wide West	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do
Burning Moscow . . .	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do
Pride of the West . . .	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do
Bullion	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do
Real del Monte	38	35	32	22	37	33	32	62	52	64	60	90	100	115	117	70	85	80	67	72	60	55	57
El Dorado	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do
Overman	42	43	23	35	65	41	36	52	50	49	72	95	70	65	75	78	80	79	51	24	27	21	24
Sierra Nevada	do	6½	9	3	10	10	9	6	do	8	do	12	11	8	9	8	5	8	do	do	2	3	2
Yellow Jacket	620	535	235	425	530	440	370	465	407½	395	420	700	790	880	935	805	750	712	630	622	640	635	700
White & Murphy . . .	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do
Sides	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do
Uncle Sam	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do
Baltic	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do
North American	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do
Baltimore Americ'n . . .	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do
Antelope	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do
Lady Bryan	150	120	85	100	133	113	108½	120	114	121	126	177½	156	140	150	169	134	126	120	121	112	93	106
Imperial	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do	do
Crown Point	830	700	490	460	540	565	550	890	835	925	1,080	1,350	1,300	1,390	1,390	1,260	1,250	1,350	950	1,000	1,050	990	900
Belcher	300	255	245	160	175	145	220	195	160	180	270	300	285	340	377	310	332	327	175	192	160	150	162
Alpha	930	740	600	140	240	200	300	370	290	270	271	310	320	410	450	335	do	320	190	280	300	205	206

Table showing the fluctuations in mining shares from June 29, 1866, to September 30, 1866.

Name of company.	June 29.	July 10.	July 20.	July 30.	Aug. 10.	Aug. 20.	Aug. 30.	Sept. 10.	Sept. 20.	Sept. 30.
Gould & Curry.....per ft.	\$700	\$725	\$720	\$705	\$715	\$740	\$700	\$710	\$600	\$610
Ophir.....do.....	210	235	280	245	272	220	210	210	200	207
Savage.....do.....	900	865	925	950	1,200	1,150	1,085	1,160	1,100	1,115
Chollar-Potosi.....do.....	183	185	190	171	180	173	129	136	115	110
Hale & Norcross.....do.....	1,275	1,260	1,300	1,425	1,600	1,650	1,600	1,750	1,680	1,800
Sheba.....do.....										
Dan-y.....do.....					5½			4½		
Wide West.....do.....										
Bullion.....do.....	57	58	47½	47	25	27	20	23	20	15
Real del Monte.....do.....										
El Dorado.....do.....										
Overman.....do.....	24	50	47	38	39	27½	11½	14½	4½	4
Sierra Nevada.....do.....	2	4½	5	4½	2½			6½	5½	2½
Yellow Jacket.....do.....	700	580	590	945	722	630	730	770	685	682
White & Murphy.....do.....										
Baltic.....do.....										
North American.....do.....										
Baltimore American.....do.....										
Melones.....do.....										
Sacramento.....do.....										
Antelope.....do.....										
Lady Bryan.....do.....										
Imperial.....do.....	106	104	94	94	94	90	95	96	84	82
Crown Point.....do.....	900	700	850	875	925	950	935	880	825	875
Belcher.....do.....	162	170	155	130	149	108	125	120	115	94
Alpha.....do.....	206			100	95				50	
Empire Mill & Mining Co.....do.....					115	120	103		77½	80
Confidence.....do.....				55	50	51	43	59	49	55
De Soto.....do.....								3½		

These tables cover but a comparatively short period and do not show the more extreme and violent fluctuations that took place during the earlier periods in the history of mining speculations. Thus in the early part of the summer of 1859 the Ophir ground could be bought for one hundred dollars, and the Gould & Curry for three dollars per foot. In less than eight months the former had risen to \$1,000, and the latter to \$600 per foot, and though the Gould & Curry stock, owing to assessments, and the fact that no ore was being taken out, fell during the summer of 1861 to \$200 per foot, we find that in less than two years from that time it was selling currently at the rate of \$5,000 per foot, and again but one year thereafter for less than \$1,000, and though it subsequently rallied somewhat, selling in April, 1865, for a little over \$2,000 per foot, it can at the present time be bought for about one-fourth that sum; nor is this an extreme case, most of the other claims on the Comstock ledge having undergone similar vicissitudes, while some at Gold Hill have fluctuated still more widely. At one time the Empire ground could not be bought at \$10,000 per foot; now it can be had for a little more than \$1,000. The Sheba, Daney, Wide West, Burning Moscow, Real del Monte, and others that might be named, though now selling for almost nominal prices, and some of them not salable at all, were once selling currently at \$500 per foot, upon most of them expensive mills and hoisting works having since been erected. Hundreds of claims that during these periodical seasons of excitement were finding buyers readily at sums varying all the way from one to a hundred dollars per foot are now no longer heard of, being in fact of no value whatever. In the shares of the productive mines on the Comstock ledge it is believed no further depreciation will be likely to take place, but rather that most of them will advance in price, the payment of dividends suspended upon many of them during the past year being gradually resumed, and though not so large as formerly, with a prospect of being continued hereafter. The Hale & Norcross company are now making monthly dividends of \$75 per foot; the Yellow Jacket, of \$50; the Gould & Curry, of \$25; and many other companies greater or less amounts, while a few, owing to extra expenses the past year,

are not making any, but expect to do so in a few weeks or months. Previous to June 1, 1865, the Empire company had taken from their mine a sum total of \$1,500,000, of which \$287,500 were paid in dividends. Including the product of the present year, the Gould & Curry company have taken from their mine a grand total of \$14,000,000, of which \$6,500,000 have been paid out in general disbursements and improvements; a little over \$3,000,000 for work done by custom mills; the balance, something over \$4,000,000, having been paid to the stockholders in dividends, while the assessments levied have been comparatively small. The extent to which assessments have been levied upon the principal mines in various parts of the State recently, dividends, &c., can be readily seen by reference to the following tables:

Name of company.	No. of feet in mine.	Shares per foot.	Total No. of shares.	Incorporate value.	Bid per foot.	Asked per foot.	Last monthly divi- dend per foot.	Recent assessments per foot.										Total assessments per foot.
WASHOE DISTRICT.																		
Baltimore American.....	600	1	600	\$500	.....	\$30 00	.....	Jan. 18	\$5 00	31	May	\$5 00	\$18 75			
Baltic.....	1,800	1	1,800	200	\$15 00	25 00	.....	July 23	6 00	Oct.	12	19 00	45 00				
Bajazett and Golden Era.....	4,000	1	4,000	300	27 00	28 00	.....	July 30	5 00	Aug.	3	5 00	38 25				
Best & Belcher.....	224	4	896	500	.....	250 00	.....	Sept. 21	30 00	Dec.	23	50 00	580 00			
Burning Moscow.....	4,100	1	4,100	500	24 00	25 00	.....	Jan. 19	15 00	June	24	5 00	56 34				
Burnside.....	2,800	1	2,800	500	7 00	8 00	.....	Feb. 16	2 00	Aug.	31	50	9 50				
Belcher.....	1,040	3	3,120	1,000	775 00	800 00	\$24 00	.....	.....	.....	.....	.....	.....
Buckeye.....	3,000	1	3,000	100	2 00	3 00	.....	Oct. 21	3 00	Dec.	13	2 50	25 70				
Bullion, G. H.....	2,500	1	2,500	300	105 00	107 00	.....	Sept. 13	10 00	Sept.	17	10 00	.....				
California.....	300	12	3,600	300	.....	.....	.....	July 12	150 00	.....	.....	.....	.....	
Central.....	1,800	12	21,600	330	.....	600 00	.....	Jan. 23	15 00	.....	.....	.....	.....	
Caledonia Tunnel.....	5,000	1	5,000	400	.....	10 00	.....	July 12	1 50	Dec.	24	4 00	19 50			
Crown Point.....	600	4	2,400	1,000	625 00	750 00	.....	Nov. 30	5 00	March	16	3 00	25 00				
Chas. Caney.....	1,800	1	1,800	30	.....	15 00	.....	Jan. 25	60 00	April	15	50 00	320 00			
Chollar.....	1,400	4	5,600	800	1,025 00	1,045 00	40 00	Sept. 15	10 00	Nov.	7	8 00	66 00					
Panay.....	2,000	4	8,000	60	12 00	15 00	.....	Jan. 20	1 00	.....	.....	.....	8 00	
Desert.....	2,200	1	2,200	100	.....	.....	.....	March 10	2 00	Nov.	3	2 00	27 00		
Eldorado.....	1,600	1	1,600	500	.....	525 00	25 00	.....	.....	.....	.....	.....	.....
Empire M. and M. Co.....	75	16	1,200	833	.....	1,465 00	75 00	Dec. 17	3 50	March	20	10 00	.....				
Gould & Curry.....	1,200	4	4,800	500	1,470 00	1,470 00	.....	Nov. 8	50 00	Dec.	28	50 00	525 00				
Grass Valley.....	4,200	1	4,200	500	.....	30 00	.....	Dec. 22	12 50	per share	.....	.....	270 00	
Hale & Norcross.....	400	2	800	500	255 00	260 00	7 50	Nov. 18	1 00	July	16	6 00	27 00					
Imperial.....	184	1	4,000	500	122 00	123 00	.....	Nov. 19	3 00	Nov.	1	5 00	23 25				
Iowa.....	1,200	1	1,200	1,000	5 00	6 00	.....	Nov. 27	3 00	Feb.	16	5 00	35 00				
Lady Bryan.....	5,000	1	5,000	1,000	.....	.....	.....	Feb. 10	1 00	March	2	1 00	7 50		
Lucerne.....	1,800	1	1,800	500	.....	3 00	.....	Nov. 23	10 00	Feb.	18	10 00	.....				
Mount Hope, G. H.....	2,000	1	2,000	500	.....	17 00	.....	Oct. 28	10 00	Dec.	19	15 00	57 00			
Michigan.....	1,500	1	1,500	100	40 00	41 00	.....	Aug. 6	12 50	Oct.	18	12 50	140 00				
Nevada, J. G.....	2,100	1	2,100	200	.....	10 00	.....	Sept. 2	2 00	Dec.	7	2 00	.....				
North Potosi.....	2,600	1	2,600	250	8 00	9 00	.....	Nov. 11	1 00	March	25	5 00	.....				
North American.....	4,100	1	4,100	300	.....	.....	.....	Oct. 3	2 00	April	1	1 00	11 20		
North Ophir.....	1,600	1	1,600	500	.....	8 00	48 00	.....	.....	.....	.....	.....	.....
Norton.....	1,600	1	1,600	50	.....	.....	.....	July 7	20 00	Nov.	19	50 00	62 00		
Ophir.....	1,400	12	16,800	300	300 00	320 00	.....	.....	.....	.....	.....	.....	.....
Overyman.....	1,200	1	1,200	500	.....	75 00	.....	.....	.....	.....	.....	.....	.....
Potosi.....	1,400	2	2,800	500	600 00	675 00	.....	.....	.....	.....	.....	.....	.....

Table exhibiting the extent, value, &c., of the principal mines in the State, &c.—Continued.

Name of company.	No. of feet in mine.	Shares per foot.	Total No. of shares.	Incorporate value.	Bid per foot.	Asked per foot.	Last monthly dividend per foot.	Recent assessments per foot.				Total assessments per foot.
								Jan.	Feb.	March	April	
Porter.....	600	\$1	600	\$500	\$500	\$30 00	\$5 00	12	11	4 00	Dec.	\$10 00
Pride of the West.....	1,400	1	1,400	100	\$5 00	6 00	9 00	*Oct.	16	9 00	Dec.	9 00
Savage.....	800	1	800	2,000	1,600 00	1,625 00	75 00					135 00
Sacramento and Mercedith.....	3,600	2	7,200	125				Feb.	11	4 00	April	
Sides.....	500	4	2,000	500		175 00		Dec.	21	50 00	March	96 00
Sierra Nevada.....	3,000	1	3,000	500		25 00		March	8	5 00	May	
Spanish No. 2.....	1,600	1	1,600	500		10 00		March	26	5 00	May	
Uncle Sam.....	1,200	3	3,600	200	200 00	205 00		Aug.	25	100 00	Dec.	223 00
Whitman.....	1,800	1	1,800	1,000				March	25	10 00	June	27 50
White & Murphy.....	210	4	840	150		50 00		Oct.	6	18 00	Dec.	281 00
Yellow Jacket.....	1,200	1	1,200	1,000	700 00	785 00		July	21	30 00	Aug.	250 00
ESMERALDA DISTRICT.												
Antelope.....	1,200	1	1,200	500	40 00	60 00		Feb.	19	25 00	Sept.	162 50
Bamboo.....	600	1	600	500				Sept.	13	5 00	June	21 50
Esmeralda.....	1,600	1	1,600	1,000		5 00		Nov.	20	50		12 25
Falls of the Clyde.....	6,000	1	6,000	250	14 00	15 00	5 00					2 72
Golden Age and Empire.....	2,600	1	2,600	250				Nov.	6	1 00	Feb.	
Nevada.....	600	2	1,200	250		25 00		March	8	20 00		44 50
Real del Monte.....	4,400	1	4,400	400		7 00		Nov.	13	20 00		8 25
Silver Hill.....	3,000	1	3,000	500				Jan.	5	3 00	Sept.	19 00
Utah.....	400	1	400	250		5 00		May	25	5 00	Nov.	90 00
Wide West.....	2,600	1	2,600	500	12 00	15 00						
COSO DISTRICT.												
Coso.....	26,000		3,600	600				Jan.	29	1 00	May	1 00
Josephine.....	9,600	2	4,800	250				July	31	50	Nov.	13 00
San Carlos.....	2,600		2,600	100				April	14	1 50	June	20 50
Willow Springs.....	2,700	1	2,700	100				Sept.	9	2 00	Jan.	7 50
HUMBOLDT DISTRICT.												
De Soto.....	1,980	1	1,980	100	30 00	35 00		Sept.	17	2 50	Dec.	19 35
Sheba.....	1,800	2	3,600	500				Aug.	12	20 00	Nov.	92 35

REESE RIVER DISTRICT.

Amador	1,400	1,000	500	.....	May 29	3	5 00	June 21	4 00	20 00
Coral	1,000	1,800	200	.....	Jan.	.....	2 00	May 25	3 00	8 40
Florida	800	1,600	300	.....	.....	.....	.....	.....	.....	1 00
Oregon	1,000	1,000	500	.....	Dec.	8	50	.....	.....	2 50
Union No. 2	1,600	1,200	1,000	.....	Nov.	16	10 00	Dec. 29	10 00	36 00
Whitlatch	2,800	1,400	200	.....	Nov.	23	50	.....	.....	.....
Willow	1,400	1,400	500	.....	.....	.....	.....	.....	.....	.....
Yankee Blade	1,000	1,000	500	.....	March 28	1 00	1 00	Sept. 5	3 00	5 50
North Star	1,000	1,000	500	.....	.....	.....	.....	.....	.....	1 50
Governor Seymour	1,200	1,200	500	.....	.....	.....	.....	.....	.....	1 50
Diana	1,000	1,000	1,200	.....	.....	.....	.....	.....	.....	2 00
Blue Ledge	1,000	1,000	1,200	.....	Jan.	18	50	.....	.....	1 50
Joe Lane	1,000	1,000	500	.....	Jan.	18	50	March 21	50	2 00
Honest Miner	1,400	1,400	1,000	.....	.....	.....	.....	.....	.....	.....
MEXICO.										
Dios Padre	2,200	1,920	500	.....	Dec.	13	3 00	.....	.....	50 00
Mina Prieta	2,200	2,200	1,000	.....	Dec.	20	10 00	.....	.....	160 00
Padre Guadalupe	3,000	3,000	1,000	.....	.....	.....	.....	.....	.....	9 00
San Marcial	13,200	13,200	100	.....	.....	.....	.....	.....	.....	.....
San Nicholas	1,200	1,200	200	.....	Sept.	10	2 00	.....	.....	.....
MISCELLANEOUS.										
Blue Ledge	7,800	7,800	50	.....	June 16	1 50	1 50	Oct. 5	1 25	.....
Fellows	2,500	2,500	100	.....	.....	.....	.....	.....	.....	.....
Melones	3,000	3,000	50	.....	June 30	2 50	2 50	Oct. 27	2 50	.....
Napoleon	2,700	2,700	600	.....	Feb.	13	10 00	June 8	5 00	15 00
Triunfo, L. C	7,866	7,866	200	.....	Dec.	13	2 00	.....	.....	17 00

* November 16, \$9.

Table exhibiting the extent, value, &c., of the principal mines in the State, with total amount of assessments thereon, prior to October 1, 1866.

Name of company.	No. of feet in mine.	Shares per foot.	Total No. of shares.	Incorporate value.	Bid per foot.	Asked per foot.	Last monthly divi- dend per foot.	Recent assessments per foot.					Total assessments per foot.	
WASHOE DISTRICT.														
Alpha	278	4	1,200	41,000	\$70 00			Feb.	20	\$120 00	April	24	\$200 00	\$1,240 00
Bacon M. and M. Co	45	30	900	800				Aug.	11	10 00				31 75
Baltimore American	2,600	1	2,600	500		\$8 00		March	10	2 00	May	12	3 00	45 00
Baltic	1,800	1	1,800	200										580 00
Best & Belcher	1,224	4	4,896	500										91 34
Burning Moscow	4,100	1	4,100	500										11 50
Burnside	2,800	1	2,800	500										
Belcher	1,040	1	1,040	1,000	77 50	80 00			Feb.	1	50	May	5	1 00
Buckeye	3,000	1	3,000	100					March	30	60 00	July	21	45 00
Bullion, G. H.	2,500	1	2,500	400					Sept.	6	3 00	Dec.	1	3 00
California	390	12	3,600	300	5 00	8 00			April	23	10 00	July	12	10 00
Central	150	12	1,800	300		300 00			July	19	5 00			
Caledonia Tunnel	5,000	1	5,000	400					Nov.	8	2 00	Dec.	21	2 00
Crown Point	600	4	2,400	1,000	930 00	975 00	\$80 00							27 00
Confidence	130	12	1,560	500	\$50 00	\$51 00			April	5	25 00			290 00
Chollar-Potosi	2,800	1	2,800	2,000	109 00	118 00			Dec.	16	100 00			443 00
Dancy	2,000	4	8,000	60	5 00	5 50			June	12	3 00	Aug.	10	3 00
Desert	2,200	1	2,200	100										87 00
Eschquer	400	20	8,000	300		1 50			Dec.	13	2 00	June	30	2 00
Empire M. and M. Co	75	16	1,200	833	\$68 00	\$75 00	\$6 00							
Gould & Curry	1,200	4	4,800	500		500 00								
Grass Valley	4,200	1	4,200	500										
Hale & Norcross	400	2	800	500	1,675 00	1,800 00	100 00		Dec.	13	50 00			825 00
Imperial	184	1	4,000	500	\$75 00	\$80 00	\$6 00							270 00
Iowa	1,200	1	1,200	1,000					March	5	1 00	May	18	1 00
Lady Bryan	5,000	1	5,000	100										27 00
Lucerne	1,800	1	1,800	500										27 75
Minerva	890	4	3,600	500										35 00
Michigan	1,500	1	1,500	100										
Nevada, J. G.	2,100	1	2,100	200					July	24	10 00	Oct.	4	7 00
North Potosi	2,000	1	2,000	250					Aug.	6	12 50	Oct.	18	12 50
North American	4,100	1	4,100	300					Aug.	12	10 00	Nov.	16	6 00
North Ophir	1,600	1	1,600	500										
Norton	1,600	1	1,600	50										
Ophir	1,400	12	16,800	300	160 00	175 00			Aug.	31	100 00			11 50
Oregonian	1,200	1	3,200	500					Aug.	5	10 00	Aug.	24	15 00

Porter.....	600	1	600	500	.....	Oct.	24	100 00	.....	10 00
Pride of the West.....	1,400	1	1,400	100	.....	.....	.....	.....	.....	9 00
Savage.....	1,800	1	1,800	2,000	1,185 00	.....	.....	.....	.....	235 00
Sacramento and Meredith.....	3,600	4	14,400	125	.....	.....	.....	.....	.....	.....
Sides.....	500	2	1,000	500	.....	Feb.	7	20 00	May 12	20 00
Sierra Nevada.....	3,000	1	3,000	500	.....	Aug.	2	4 00	Oct. 2	2 50
Spanish No. 2.....	1,600	1	1,600	500	1 50	.....	.....	.....	.....	.....
Whitman.....	1,800	1	1,800	1,000	.....	June	18	7 50	.....	27 50
White & Murphy.....	1,210	4	1,840	1,150	.....	Oct.	30	22 50	.....	303 50
Yellow Jacket.....	1,200	1	1,200	1,000	715 00	Nov.	14	100 00	Feb. 12	150 00
ESMERALDA DISTRICT.										
Antelope.....	1,200	1	1,200	500	.....	Sept.	18	5 00	June 20	2 00
Bamboo.....	600	1	1,600	1,000	.....	.....	.....	.....	.....	162 50
Esmeralda.....	1,600	1	1,600	1,000	.....	Nov.	20	50	.....	21 50
Falls of the Clyde.....	6,000	1	6,000	100	.....	.....	.....	.....	.....	12 25
Golden Age and Empire.....	2,600	1	2,600	250	.....	.....	.....	.....	.....	2 72
Nevada.....	2,600	2	1,200	250	.....	.....	.....	.....	.....	.....
Real del Monte.....	4,400	1	4,400	400	.....	.....	.....	.....	.....	44 50
Silver Hill.....	3,000	1	3,000	500	.....	Jan.	5	2 00	.....	8 25
Ural.....	400	1	1,400	500	.....	Nov.	18	20 00	.....	19 00
Utah.....	1,600	1	1,600	250	.....	Oct.	3	5 00	Oct. 18	5 00
Wide West.....	2,600	1	2,600	500	.....	.....	.....	.....	.....	111 50
COSO DISTRICT.										
Coso.....	26,000	.....	3,600	600	.....	March	2	1 30	Sept. 20	1 00
Josephine.....	9,600	2	4,800	250	.....	.....	.....	.....	.....	14 00
San Carlos.....	2,700	1	2,600	100	.....	.....	.....	.....	.....	20 50
Willow Springs.....	2,700	1	2,700	100	.....	.....	.....	.....	.....	7 50
HUMBOLDT DISTRICT.										
De Soto.....	1,980	1	1,980	100	.....	June	17	2 50	.....	26 25
Sheba.....	1,800	2	3,600	500	.....	.....	.....	.....	.....	112 35
REESE RIVER DISTRICT.										
Anador.....	11,200	.....	1,400	1,000	.....	Feb.	28	5 00	.....	26 50
Coral.....	1,000	1	1,400	500	.....	.....	.....	.....	.....	2 40
Florida.....	800	1	1,800	200	.....	.....	.....	.....	.....	1 00
Oregon.....	800	.....	1,600	300	.....	.....	.....	.....	.....	2 50
Union No. 2.....	1,000	1	1,000	500	.....	April	29	10 00	.....	56 00
Whitlatch.....	600	2	1,200	1,000	.....	.....	.....	.....	.....	.....
Willow.....	2,800	.....	1,400	200	.....	.....	.....	.....	.....	.....
Yankee Blade.....	1,400	1	1,400	500	.....	May	1	5 00	.....	5 50
North Star.....	1,000	1	1,000	500	.....	.....	.....	.....	.....	1 50
Governor Seymour.....	1,000	1	1,000	500	.....	.....	.....	.....	.....	1 50
Diana.....	1,000	1	1,200	500	.....	.....	.....	.....	.....	2 50
Blue Ledge.....	1,000	1	1,000	1,200	.....	.....	.....	.....	.....	.....

* Per share.

Table exhibiting the extent, value, &c., of the principal mines in the State, &c.—Continued.

Name of company.	No. of feet in mine.	Shares per foot.	Total No. of shares.	Incorporate value.	Bid per foot.	Asked per foot.	Last monthly divi- dend per foot.	Recent assessments per foot.				Total assessments per foot.
Joe Lane	1,000	\$1	1,000	\$500	.....	.....	.....	.....	.....	.....	.....	\$1 00
	1,400	1	1,400	1,000	.....	.....	.....	.....	.....	.....	.....	2 00
MEXICO.												
Dios Padre.....	2,200	1	1,920	500	.....	.....	.....	.....	.....	.....	.....	52 00
Mina Prieta.....	2,200	1	2,200	1,000	.....	.....	.....	Dec. 20	\$10 00	.....	.....	160 00
Padre Guadalupe.....	3,000	1	3,000	1,000	.....	.....	.....	.....	.....	.....	.....	9 00
San Marcial.....	13,200	1	13,200	100	.....	.....	.....	.....	.....	.....	.....	.....
San Nicholas.....	1,200	1	1,200	200	.....	.....	.....	Sept. 10	2 00	.....	.....	.....
MISCELLANEOUS.												
Blue Ledge	7,800	1	7,800	50	.....	.....	.....	Oct. 5	1 25	July 12	\$1 50	.....
Fellows.....	2,500	1	2,500	100	.....	.....	.....	.....	.....	.....	.....	.....
Melones.....	3,000	1	3,000	50	.....	.....	.....	March 22	1 00	Oct. 6	2 50	.....
Napoleon.....	2,700	1	2,700	600	.....	.....	.....	June 30	5 00	Dec. 20	7 00	.....
Triunfo, L. C.....	7,866	1	7,866	200	.....	.....	.....	May 18	2 00	July 6	3 00	.....

From the foregoing tables it will be perceived that several mines upon which heavy assessments have been paid are now worth nothing at all, the Baltic, North Potosi, and the White & Murphy, in the Washoe district, the Antelope and Wide West in Esmeralda, and the Sheba in Humboldt, being cases in point. It will also be seen that in other cases of this kind though the assessments per foot are much less, the total amount collected and expended upon these now worthless mines is large, owing to the great number of feet they contain, the Baltimore American, Amador, Buckeye, Burnside, &c., being examples of this class. The Alpha is quoted as worth only \$70 per foot, while the assessments amount to \$1,240 per foot, from which, if this quotation is to be accepted as indicating its true value, it would appear that the stockholders of this mine have sunk over \$325,000, besides the original cost of their grounds; a view that the actual facts in this particular case will hardly justify, the company owning a valuable hoisting works and the prospects of their mine being far from desperate.

The above tables contain the names of only a small portion of the companies that have been organized, generally incorporated at considerable expense, for the purpose of mining, or rather perhaps it should be said dealing and speculating in mine in this State; nor do they indicate more than one in a hundred of the ledges that at some time between the summers of 1860 and 1864 were supposed to possess some considerable value, and upon which more or less work was during that period performed. These ledges were not confined to the so-called Washoe district, meaning the central western portion of the State, but were scattered all over it except the extreme northern, eastern, and southern parts, which had not then been much explored. The amount of money expended upon or about these ledges in various ways, the most of it in attempts at opening them with shafts or tunnels, varied from the smallest sum to \$100,000, being in the aggregate very large, not less perhaps, labor included, than three or four millions of dollars, nearly all of which, though not illegitimately applied—the prospecting of these mines being a necessary measure—was practically lost, very few of them having exhibited a sufficient quantity of pay ores to impart to them any value. It must be remembered, however, that but few of them have been opened to any great depth, leaving a chance for the finding of more metalliferous ores, should they ever be more thoroughly explored, as many of them undoubtedly will be. In speaking of this class of lodes on which more or less labor has been expended, no allusion is made to the still larger class, numbered by thousands, which were located under the laws of the various districts, and after being held for a short time were abandoned, being forfeited for want of the requisite improvements, and upon which, fortunately, no work was done at all. But even this class did not fail in seasons of excitement to possess at least a nominal value in the mining-share market, some of them being disposed of to the ignorant or credulous for considerable sums of money. Fortunately this mode of procedure is now pretty much over with, never, it is hoped, to be again reinstated. It will be seen by these tables that while the losses from the depreciation of mines upon which assessments have been paid have been heavier in the Washoe district, they have been quite as frequent, considering the entire number, and even more complete, in the outside districts, where, so far as the stock reports indicate, all values would seem to have been extinguished for this species of property. Of the seventy millions of dollars extracted from the mines in Nevada, it is questionable whether even one-third has been paid to the shareholders in the shape of dividends—not enough in many cases to cover the assessments they have been called upon to pay; while it is well known the mines, taken as a whole, with all improvements, would not sell for anything like what they cost. Yet at present many of these properties are depressed in price far below their intrinsic value, as the experience of the future will undoubtedly show.

Extent and cost of underground work.—Including tunnels, shafts, adits, drifts, and actual stopings excavated in the business of exploitation, prospecting, and ventilating the Comstock vein, it is estimated that the various companies owning mines along it have executed an amount of subterranean work equal to nearly forty miles in linear extent. The expense attending this kind of work depends so wholly upon their size, length or depth, the material to be removed or penetrated, and other circumstances surrounding each particular case, that it would be difficult to fix upon a figure indicating their average cost. The price for excavating shafts and tunnels ranges from five to fifty dollars per running foot, many of the larger tunnels having cost throughout more than twenty dollars per foot. These prices, as are all the other money estimates in this report being based on specie values. The sinking of the larger and deeper shafts, including timbering, has generally cost from twenty to forty dollars per foot. The large shaft intended for both working and prospecting purposes now being put down jointly by the Empire and Imperial companies at Gold Hill, estimated throughout, will cost at the rate of fifty-eight or sixty dollars per foot. This is, however, of extra large dimensions, being seven feet four inches by thirty feet eight inches, and to be carried down 1,200 feet. It will call for twelve months' time and an expenditure of about \$80,000 to complete it. Short tunnels and shafts of moderate depth, where the ground is tolerably favorable, can be excavated for six or seven dollars per foot, and sometimes for less. In this kind of work on and about the Comstock ledge there has been expended between two and three millions of dollars, exclusive of the expense attendant on the removal of the ores and the timbering up of the mines.

4.—MINING PROPERTY, ETC.

Number and capacity of mills, hoisting works, &c.—There are at this time 170 mills for the crushing and reduction of ores in the State of Nevada. This number embraces only such establishments as are now completed and ready for running or nearly so, there being several, some of them of large capacity, in course of construction, but not sufficiently advanced to warrant speaking of them as being already in existence. These mills carry 2,564 stamps, weighing from 400 to 800 pounds each, the average being about 600 pounds, and have an aggregate capacity equal to 6,322 horses. Their average cost has been about \$60,000, or an aggregate of \$10,000,000, one of them, the Gould & Curry, carrying 80 stamps and supplied with two large engines, has cost, with grounds, alterations, and surroundings, over \$1,000,000; several others have cost from \$150,000 to \$250,000, the Ophir, in Washoe valley, having cost much more. Of this number 35 are driven by water and the balance by steam, a few of each class using both water and steam. Of these mills 36 are in Storey county, 34 in Lyon, 10 in Washoe, 8 in Ormsby, and 1 in Douglas, a total of 89, all of which are running on Comstock ore; Esmeralda county contains 21 mills, Nye 8, Lander 22, Humboldt 5, and Churchill 4. Some of these structures are very substantial, being built of brick and granite or other stone; some, on the contrary, being cheap and fragile; the machinery, however, is in most cases good. At the time many of them were erected labor, freights, and material were much higher than at present, wherefore they cost a great deal more than equally good establishments would now do. Attached to most of these mills are shops, ore and timber sheds, and, in some cases, boarding-houses, &c., the cost of which is generally included with that of the mill. Twenty per cent. or more of these mills are not at present running, most of those lying idle being in the outside districts. Those employed upon the Comstock ores are mostly kept running, except a few that may be stopping for repairs. Of all the mills in Esmeralda county not more than one-half are at work, nor have they been for the past two years. In Lander county there are also many unemployed, particularly about Austin. The causes of these stoppages are various; in a few cases the mills are imperfect and not fit to do good work. In others they have been tied up with litigation,

or perhaps been unable to run steadily for want of water. The principal trouble, however, in both Lander and Esmeralda has been an insufficiency of pay-ores to keep them running, the ledges about Austin being so extremely small that although in some cases rich, they can supply only a very inconsiderable quantity of ore, while in Esmeralda, where the ledges are large, the good ores found upon the surface appear to have run out. A number of deep prospecting shafts have lately been undertaken there, and it is generally believed by those best acquainted with the mines that bodies of remunerative ores will yet be found at greater depths.

Most of these mills run day and night, stopping only on Sundays; at which time machinery is examined and such temporary repairs as may be needed are made. They employ from five to fifty hands each, the usual number being from ten to fifteen, though the Gould & Curry mill requires over a hundred. In a majority of cases the mill-owners also own mines and crush their own rock, while some do custom-work, reducing ores for others at so much per ton, or buy and crush it on their own account. A few crush the ores dry, though nearly all adopt the wet method. It is generally calculated that each stamp will crush a ton of ore every twenty-four hours. Some do less and others do more, according to the weight of the stamp and the character of the ore. Besides these mills there are in the State six smelting works, the most of them on a small scale, and twenty-five or thirty arastras—some driven by water, but the greater number by horse or mule power. There are also in the State about fifty steam pumping and hoisting works, many of them structures of a costly and massive kind. There are also in the State a number of large foundries and machine-shops, and over fifty saw-mills, mostly propelled by water, with one small flour-mill now running, and another being erected.

Roads, ditches, &c.—A number of toll-roads, several of them extending over the sierra and others quite into the interior of the State, have been built under the charters from the present State or former Territorial legislature. The length of these roads, some of which have been very expensive and formidable works, is not less in the aggregate than three hundred miles, the entire cost of their construction having been over \$500,000. One of these, the Kingsbury road, crossing the sierra near Genoa, has cost, with alterations and improvements, \$150,000; the amount of tolls it has taken in being more than double that sum. As a general thing, however, these roads have not proved lucrative, the amount of tolls received barely sufficing to keep them in repair and pay a moderate interest on the investment, some failing to even do this. The water ditches of this State, built either for milling or irrigating purposes, and generally for both, are numerous, but not, with the exception of two or three, of great magnitude. The Humboldt ditch, nearly one-half built, taking water from that river and conveying it to the vicinity of the principal mines, is seven feet wide on top, five on the bottom, and two deep. It will be over sixty miles long, and will cost when completed nearly \$100,000. Preparations are now being made for constructing a large aqueduct, to be built of wood, for taking the entire body of water running in the west branch of Carson river from its cañon and conveying it to Empire City, a distance of nearly thirty miles. The work as projected will cost over \$200,000. Other ditches and flumes, not of such magnitude, but still quite extensive, are to be found at Empire City, Dayton, in Washoe and Truckee valleys, and elsewhere throughout the State, the number of small ones along the eastern slope of the sierra and among the mountains of the interior, built mainly for irrigating purposes, being quite large; and gradually, as population and improvements increase, the running waters of the State will be diverted from their natural into artificial channels, to be used for irrigation and propulsive power. There are about thirty saw-mills in the State, all but one driven by water. With the exception of three or four of limited capacity in the Reese river country, they are all situated in the foot-hills along the eastern base

of the sierra, where water-power is abundant, and where alone any really good timber is to be found. The price of lumber at these mills is about \$20 per thousand, the cost increasing rapidly with the distance it has to be hauled.

Number of companies formed for mining purposes; districts erected, ledges located, &c.—The number of mining companies incorporated for the purpose of prospecting for locating, working, or dealing in mines in the State of Nevada, amounts to over one thousand. Many of these never proceeded to actual operations beyond the act of organizing, and most of them cannot be said to have a present existence. Besides these incorporated companies three times as many minor associations, though often consisting of the same parties, were organized under the laws of the several mining districts for similar purposes; most of these, like their more pretentious neighbors, having since been disbanded and ceased as companies to have any existence. Of the number of districts erected or ledges located by these numerous parties during the three or four years that the mining excitement raged, no accurate statement can be made, new districts being formed and after a short time disbanded, to be again followed by others covering in part or perhaps the whole of the same territory; and ledges being located by the thousand, to be in like manner given up, being forfeited from failure to do the requisite amount of work or otherwise comply with the laws of the district. In size these districts varied greatly, as they still do, being from ten to a hundred miles square, and having as a general rule natural objects, such as mountains, valleys, ravines, &c., for boundaries. The number of mining districts in the State regularly organized and having a recognized legal existence, with records and officials, may be set down at about one hundred; the number of ledges worked sufficiently to hold them under the local laws of the district where they are situated, may be roughly estimated at between four and five thousand. Upon some of these a large amount of work has been done, though upon nine-tenths of them but very little. Of the adult population of the State about two-thirds are engaged in the various branches of mining. Wages of miners vary from \$3 50 to \$5 per day, or from \$60 to \$100 per month. The prices of labor, like almost everything else, are from fifty to seventy-five per cent. higher in this State than in California.

Taxes and legislation.—The only measures adopted by the general government looking to a realization of revenue from the mines on this coast are the laws passed by Congress in the years 1864 and 1865. The first of these, which took effect August 29, 1864, provided for the levying of a tax of one-half of one per cent. on all bullion assayed, and prohibiting, under severe penalties, the sale, transfer, exchange, transportation, exportation, or working of any bullion not having first been assayed. The other law requires every miner whose receipts amount to over one thousand dollars per year, and every person, firm or company employing others in the business of mining, to take out a license for which they shall pay the sum of ten dollars. Neither of these measures can be considered impolitic, unjust or oppressive, nor are they the subject of complaint by the great mass of those most affected by them. In addition to these acts the legislature of the State of Nevada enacted a law two years since, by which it is provided that from the gross returns or assayed value per ton of all ores, quartz or minerals in that State, from which either gold or silver is extracted, there shall first be deducted the sum of twenty dollars per ton, and upon seventy-five per cent. of the remainder a tax of one per cent. ad valorem shall be levied for State and county purposes, provision also being made for collecting a like tax upon any of this class of ores transported from the State. The revenue derived from this source for the year 1865 amounted, in Storey county, where the principal mines are situated, to \$40,145, to which may be added two or three thousand for outside districts. The State also taxes the mills, hoisting works, and all other above-ground fixtures and properties, real and personal, but not the mines proper. The mineral land law passed at

the last session of Congress, providing for the sale of mines upon the public domains, though exciting some apprehension among miners at first, and perhaps somewhat imperfect in its details, is now generally approved, and will, no doubt, result in benefit to both the government and those most affected by its operations. By enabling the present claimants to secure titles to their mines, it will increase the confidence of capitalists in this species of property, and thus greatly enhance its value and tend to promote its more rapid development. The only title heretofore enjoyed or obtainable by these claimants has been one of possession, held under sufferance from the general government and by virtue of the local laws, rules, and regulations of the several mining districts, and which latter, though generally wholesome and just in their provisions, were always brief and insufficient, considering the momentous interests constantly growing up under them, and not unfrequently contradictory and obscure, or otherwise imperfect and objectionable. The laws of the various districts, though similar in their general features, often differ in some of their provisions. They are, however, so nearly alike in all essential particulars that the few examples hereunto appended will serve sufficiently to illustrate their common character.

5.—GENERAL VIEW OF THE MINES OF NEVADA, WASHINGTON TERRITORY, UTAH, MONTANA, AND IDAHO.

General view of the mines of Nevada.—In considering the mines and the metalliferous territory of Nevada it has been customary to divide the State into several sections designated as follows, viz: the Washoe, the Esmeralda, the Humboldt, and the Reese River districts, each of which covers a large area of country and contains a number of those smaller subdivisions known as mining districts.

The Washoe region.—This embraces all the central and western portion of the State, and includes the counties of Douglas, Ormsby, Washoe, Storey, and Lyon, which, united, contain only as much territory as Roop, scarcely half as much as either Esmeralda or Churchill, and not one-quarter that embraced within the limits of either Humboldt, Nye, or Lander county. Notwithstanding its comparatively diminutive size, Storey county contains more than one-third of the taxable property as well as of the inhabitants of the State. The only mines of any considerable and well-established value in the Washoe region, those upon the Comstock lode, being also in this county, and from which is extracted more than ninety per cent. of all the bullion produced in the State.

Upon the discovery of the Comstock ledge a large population was drawn over the mountains, the number of inhabitants within the boundaries of the present State of Nevada being somewhat larger in 1863 than at this time. Prospecting—that is, exploring the country for metalliferous veins—was at once commenced and pushed with vigor; a good proportion of the Washoe, Esmeralda, and Humboldt regions having been subjected to a pretty thorough inspection during the first three years following the discovery of silver. Within this time thousands of ledges were located throughout all parts of this extensive Territory. Many of these were of large size, well defined, and frequently prospected well, sometimes largely, in both gold and silver upon the surface. Others were of less magnitude, lacked the features of true veins, and were quite or nearly barren of the precious metals. In some cases free gold abounded in the croppings, but the preponderating metal, so far as any existed, was silver, the most of these being located as argentiferous veins. Upon a few of the larger and more promising a large amount of work was performed, while upon a majority but little or nothing was done; the sums expended upon them, however, could not in the aggregate have been less than eight or ten millions of dollars, some estimating it much higher. All this large sum of money was spent in the mere preliminary business of prospecting and exploring a class of mines which, with but few exceptions, have thus far proved unproductive, and may be set down as possessing

no present market value, many, even of those upon which large sums had been expended, being now abandoned. The total amount of bullion extracted from all the mines in the Washoe, Esmeralda, and Humboldt regions, apart from those on the Comstock lode, will not this year amount to half a million dollars, a sum considerably less than what was realized from them during several preceding years. It is not to be inferred, however, that all these mines will ultimately prove worthless. A considerable number only require more careful management and a sufficiency of means to secure for them deeper and a more thorough exploration to render their working almost certainly remunerative and perhaps largely profitable. Excluding eighty per cent. of all the ledges located as belonging to a class so manifestly worthless that no work should ever have been performed upon them, one-half of the remainder may be set down as possessing such signs of value as would warrant a moderate expenditure to prove more fully their character, while the balance may justly be considered as being lodes that with judicious management and the application of a moderate sum can speedily be developed into productive and paying mines, many of them being already in an advanced stage of exploration, a few having steam hoisting works attached to them, and a still smaller number mills also for reducing their ores. The great mistakes made in these earlier efforts at silver mining, as displayed both in the regions under consideration and elsewhere, consisted in locating and attempting to open so many worthless ledges, and in the superficial character of the work performed generally. Through this means vast sums were uselessly thrown away, and by so much scattering the work applied, nothing was done effectually. Had this labor been concentrated upon a few of the more promising lodes, many of these would no doubt now have been yielding large quantities of millable ores, whereby the annual yield of bullion would have been much increased, and the useless expenditure of millions of dollars have been saved, besides our actual knowledge of the metalliferous resources of the country been greatly extended. These were mistakes honestly made through ignorance, and are not to be confounded with those growing out of the spirit of cupidity and speculation that at one time prevailed, and of which sufficient has been said elsewhere. They are, moreover, mistakes that, having abundantly evinced their mischievous effects, are now being generally avoided. One cause that led to the expectation that this superficial style of working should suffice, was the fact that the accumulations of rich ores that led to the discovery of the Comstock vein were found quite upon the surface; hence it was thought that in all cases bodies of pay ores should in like manner be met with, if not in the croppings, certainly at no great depth below them, a supposition contradicted by the experience of silver miners nearly all the world over, these rich masses upon the surface being of rare occurrence. A partial excuse can also be found for this indiscriminate practice of locating ledges in the additional fact that many of them were as large and often much larger, and to all appearance equally as valuable as the Comstock; the difference, generally speaking, only being made apparent where, after reported trials of the ores taken from different and often from great depths, they were found to be valueless. In many of these ledges the walls were as regular, the mass of vein-stone as great, and, judging by the eye, as likely to be metalliferous as that of the Comstock; hence, many companies operating in the contiguous as well as in the more remote districts, encouraged by the resemblance of their ledges to the great mother vein, persevered in their efforts until large sums were expended, yet without reaching the hoped-for deposits of rich ores. In many of these cases operations, after being suspended for several years have again been resumed with the purpose that they shall be carried on to a point determinate of the probable value of the lode in process of exploration. At present several of these deep prospecting shafts are being sunk in the Washoe section of country, and, as it is reported, with the most hopeful prospects. There are, moreover, in this region many

ledges on which work has been steadily kept going since their commencement four years ago, the method of opening being by means of tunnels which have not yet reached the vein; some of these are to be several thousand feet in length, and will yet require a year or two for their completion; the owners remaining, meantime, in ignorance of the precise character of their ledge. In Alpine county, which, though in the State of California, is situate entirely on the eastern side of the sierra, and generally considered as belonging to the Washoe region, there are, beyond any question, many argentiferous lodes of great magnitude and undoubted value. Upon several of these heavy works of exploration have been in progress for three or four years, and which, as they approach completion, begin to reveal many valuable features in these ledges. Owing to the protracted nature of these works but little bullion has yet been produced in this county, though it is likely a handsome sum will be turned out the coming year. as a number of mills and smelting works are being erected in that section.

Of the one hundred and seventy mills in the State, eighty-nine, carrying 1,440 of the 2,564 stamps, are in the Washoe district. These mills have a capacity equal to 3,841 horse-power, and cost, in the aggregate, over five and a half million of dollars, all the other mills in the State having but 2,481 horse-power, and costing but \$5,500,000. Here, too, are most of the water-mills, thirty in number, that are running in Nevada. Of these eighty-nine mills, thirty-six, carrying 625 stamps, 1,500 horse-power, and costing \$3,000,000, are in Storey county. Two of them are driven by water; the balance by steam. There are also in this county ten arrastras driven by water, and one smelting establishment. In Lyon county there are thirty-four mills, having 489 stamps, 1,286 horse-power, and costing \$1,705,000. Eleven of these mills are propelled by water. There are five arrastras in this county, and one metallurgical works. Washoe county contains ten mills, 200 stamps, 610 horse-power, costing \$520,000; seven of them are driven by water, and several by water and steam combined. Ormsby county contains eight mills, 123 stamps, 435 horse-power, costing \$375,000. Nine of these mills are driven by water, and three partly by water and partly by steam. Douglas county has but one mill, five stamps, ten horse-power; cost \$5,000; driven by water.

The Esmeralda region is generally considered as coextensive with Esmeralda county, and as also covering a contiguous strip of mineral territory on the California side of the line. It is, for the most part, an elevated, dry, and barren country, containing but little agricultural or grass land, and no timber except the scattered patches of piñon, heretofore described, much of it being destitute of even this. It embraces within its limits over twenty mining districts, some of which contain mines of much importance. Esmeralda district, the earliest settled portion of this region, contains two-thirds of all the population, they being residents of Aurora, the principal town in the county. Upon the mines in this district also has most of the heavy work been done, and here are located three-fourths of all the mills that have been erected in that section of country. Several of these, being very extensive and complete in their appointments, cost large sums of money; but, as yet, none of them have accomplished much in the way of turning out bullion, partly because some have been grossly mismanaged, or their operations suspended by protracted and costly litigation, but chiefly because the ledges first opened, and which were generally considered the best in the district, prospecting largely upon the top in silver, and often also in free gold, grew barren, or pinched out as descended upon, or suffered such interruption and displacement as to render it impossible longer to identify or follow them. Hence, for the past two or three years most of the mills about Aurora have been idle, and chiefly because they could not get a sufficiency of pay ore from the mines in the vicinity to keep them running. It is the opinion of geologists that most of these disturbances are confined to the first few hundred feet beneath the surface, and that below that point these ledges, which promised so

well, and some of which really were so rich above, will again be found regular, compact, and, most likely, highly metalliferous. At all events, confiding in this theory, several companies have resolved to test this question by sinking deep prospecting shafts on a number of the largest and most promising lodes at this place, powerful hoisting and pumping works having been provided for this purpose, and some of the shafts having been sunk several hundred feet lower than any level before attained. This work is to be prosecuted till some definite results are arrived at, and it is now believed by those most conversant with the subject that in the course of the next year quite a number of the mills about Aurora will be able to run on ore obtained from these deep workings, and that the whole of them will be able to do so, running full time, in the course of a couple of years more at the farthest. With the general disappointment in the character of the mines at large, the suspension of work upon those esteemed as of the better class, and the stoppage of the mills erected at so much cost, business of all kinds has greatly declined, population has fallen off nearly one-half, and real estate has so declined that it will not sell for one-quarter the prices readily commanded, three or four years ago, the depreciation of mill and mining properties being more marked than any other. Mills that cost a quarter million of dollars would not now sell for a third of that sum, while mines that were selling currently, under the stimulus of popular excitement and the artful machinations of speculators, at three and four hundred dollars per foot would not now sell for one dollar, the most of them being considered of so little value that their prices are no longer quoted on the lists of mining stocks dealt in by the brokers. Some mines in this region, however, of more recent location, and situate mostly in the outside districts, exhibit, as before stated, many satisfactory evidences of permanency and wealth, the most noted of these being in Silver Peak and Red Mountain districts, on the eastern margin of Esmeralda county. The Silver Peak mine in the former contains a large body of argentiferous ores lying very near the surface. A ten-stamp mill running upon this extracted, during the few months it was in operation, a large amount of bullion, the entire mass of the ore yielding by the most simple process over one hundred dollars per ton. This mine having been sold to an eastern company, nothing has been done upon it for the past six or eight months, the ten-stamp mill having been removed to Red mountain, a few miles west, where it is to be run in conjunction with a small three-stamp mill put up there two years ago, and which has also been running with success; the ore at that place abounding in free gold to such an extent that it merely requires crushing and running over blankets. It is the intention of the Silver Peak company to put up a large first-class mill the coming year upon their mine. In the Columbus district, lying between Silver Peak and Esmeralda, there are a number of unmistakably rich ledges, but they have not yet been much developed, and it would be too soon to pronounce an opinion upon their probable permanency. No mills have yet been built at this place, though one is talked of as likely to be taken in next summer. The number that could be kept running would, in any event, be limited, the district being but scantily supplied with wood and water. In the Volcano district, near Columbus, a great variety of metals and minerals have been found, there being here, besides veins seemingly rich in gold and silver, immense reefs of magnetic iron ore, numerous cupriferous lodes, large and highly impregnated with copper; also saline pools surrounded with heavy deposits of salt, and, according to Dr. Blatchley, generally esteemed good authority, veins of true coal of the bituminous variety, two of these, varying from three to four feet in width, having lately been found by him while on a tour of extended research throughout the southeastern part of the State. In the Montgomery, Hot Springs, and Bodie districts, lying mostly in California, there are also many ledges of favorable aspect, some of them of well-ascertained value, there being in the last-named district two large mills, one of which is

running successfully, and the other nearly ready for operations. In Lake district, also in this county, and situate on the west side of Walker lake, a large number of gold-bearing ledges were discovered in the summer of 1865, and though prospecting extremely rich in this metal on the surfaces, they have not yet been opened to a sufficient depth to fully establish their value as permanent mines. Two small mills are in course of erection in this district, and there is no doubt but they can obtain enough ore to give them profitable employment for some time at least.

In view of the many promising mines scattered over all parts of the Esmeralda region—the long and varied experience enjoyed by the inhabitants in every department of mining enabling them to avoid the mistakes of the past and to conduct the business hereafter with greater efficiency and economy—it is but reasonable to predict that this interest will soon undergo a revival, and the country meet, in part at least, the expectations entertained of it at an early day.

The mills built in Esmeralda county, twenty-one in number, carry in the aggregate 241 stamps, have a propulsive capacity equal to 672 horse-power, and cost \$1,150,000. Only two of them are driven by water. There are also ten arrastras and two small smelting works in this region. These mills are distributed over the country as follows: One of ten stamps and one of three at Red mountain, three of small capacity in Hot Spring, Blind Spring, and other districts south of Aurora, two in Bodie district, and the balance on Walker river and in the Esmeralda district proper.

The Humboldt region.—This section occupies the northwestern corner of the State, covering the counties of Humboldt and Roop, and, for the sake of convenience rather than from its geographical position, also that of Churchill, lying south of the former. The appearance of the country, as well as the general character of the mines, is very similar to those of Esmeralda; nor does the history of operations here differ materially from that of the latter. The same difficulties were encountered and the same mistakes made here as there. Owing to the careless manner in which many of the claims were located, the obscurity and imperfection of the laws, and the still more imperfect manner in which they were enforced, a majority of all the titles, more particularly those to what were considered the better class of mines, became involved in litigation, thereby retarding their development and destroying confidence in them generally. Millions of feet of unprospected ledges were sold, sometimes fairly, but oftener through misrepresentation and chicanery, and the proceeds, amounting in the aggregate to vast sums, were spent usually in every manner of extravagance and folly, and rarely in any persistent and well-directed efforts at opening the mines. Towns were built, hotels and saloons of luxurious style were erected, real estate in these embryo cities went up to enormous prices, everybody seeking to get rich from speculating in city lots or "feet," as these mining properties were designated, but little being done meantime towards advancing the business that should have first been looked after, the opening up and proving of the mines. Mills were also procured and put up at heavy expense before it had been ascertained that enough ores could be had to keep them running, this latter mistake not having been committed to the same extent in Humboldt as in the Esmeralda and some parts of the Reese River regions, where more than two-thirds of the mills have remained constantly idle from the causes set forth. It is also true that an equal proportion of the entire number of mills put up in Humboldt have been doing nothing much of the time; the principal advantage here being that only a small number of mills, and these mostly of an inexpensive kind, were erected.

In the Black Rock country, lying in the western part of Humboldt county, many ledges claimed by the finders to be good were discovered during the past year. These veins are large, and some fair tests have been obtained from them by mill process, yet they are not enough opened to afford any decisive clue as

to their ultimate value. A small mill has been forwarded to the district, and a more thorough trial of the ores will no doubt soon be had. These mines lie in the midst of a hideous desert, and unless excessively rich can possess no present value, the country for more than fifty miles in every direction being almost wholly devoid of wood, water, and grass.

In the Pueblo mountains, sixty miles northeast of Black Rock, a district was organized, and many ledges located five years ago. A small water mill erected there, and afterwards burnt by the Indians, has not since been rebuilt, nor have the mines showing fine surface indications been at all opened; wherefore, little or nothing is known as to their real character. The ores are an argentiferous galena, abounding in both silver and lead, and may possibly require reduction by smelting. If so, this mode could be adopted with a fair prospect of success, as wood and water are tolerably plentiful in the neighborhood of the mines, there being also much good hay and farming land in the extensive valley adjacent.

In Humboldt county proper mining operations, as well as population, have diminished considerably during the past two years, nor will the shipments of bullion this year equal those of either of the three years immediately preceding. The work now being done, however, is more thorough, being confined to a smaller number of ledges than before, and will no doubt prove more satisfactory in its results.

In Churchill county there are three districts that have attracted some notice, because of the supposed valuable ledges they contained. These are severally named the Silver Hill, the Mountain Well, and the Clan Alpine, and to them most of the work performed in the county has been confined. There are in this county four quartz mills, carrying 55 stamps, and having a driving power equal to that of 165 horses. The total cost of these mills was \$395,000. Three of them are in Mountain Well, and one not quite finished in Clan Alpine district. They have produced but a few thousand dollars' worth of bullion all told, none of them having been able to run for more than a few days at a time, from an insufficient supply of pay ore, but few of the ledges here having been opened to even the superficial depths common to most other districts. In the higher strata of some of them small aggregations of very rich ores have been found, and the chances favor the supposition that when properly developed they will afford enough ore to keep the present and perhaps additional mills running. Very few additional mills, however, can ever be operated in the western half of the county, owing to the limited supply of wood and water.

The Reese River region, embracing within its boundaries the extensive counties of Lander and Nye, covers more than one-half of the entire State of Nevada. The geology of this region differs somewhat from that in the western part of the State, limestone of the silurian epoch abounding here, and other sedimentary rocks being more common. Carboniferous signs are also more frequent. The ledges throughout this region are mostly encased in granite or granitic rock, such as gneiss, sienite, &c., in limestone, and the several varieties of slate, a few only being found in rocks of volcanic origin. Most of the large and well-defined veins lie in silurian limestone, a formation highly favorable to the existence of deep-fissured and permanant mines. The lodes about Austin, Lander county, occur wholly in granite, both walls as well as the country rock being of this character. They are for the most part very narrow, varying from six to eighteen inches in width on top, and expanding to two or three feet at the depth of 300 feet, the greatest vertical depth to which any have yet been opened. Besides being narrow, these ledges are apt to suffer much from faults, and occasionally contract to a mere seam of quartz, or disappear altogether. Where these faults have occurred the experienced miner is generally able to place them again sometimes without much labor. Most of these veins run in a northerly and southerly direction, and stand at an angle varying from 45 to 60 degrees,

very few of them having a more vertical position. Owing to the firmness of their walls very little timbering is required, though their extreme narrowness compels the performance of much dead-work in the course of their development. There are 36 steam hoisting works employed on the mines in the neighborhood of Austin. They are mostly of small capacity, from 20 to 25 horse power, but owing to the small amount of ore as well as water required to be raised they will meet all the demands for hoisting until the mines reach a depth of four or five hundred feet. The ores in this vicinity are the sulphurets and the red antimonial sulphurets of silver, though in the top rock, and in some instances for a considerable distance beneath the surface, these have been changed by decomposition into chlorides, bromides, and iodides of silver. These ores, being impregnated with antimony and arsenic, all require roasting. Though small in quantity, not more than 35 or 40 tons being raised daily from all the mines in the Reese River district proper, these ores are extremely rich, yielding by mill process from one to two hundred dollars per ton, the average yield being nearly one hundred and fifty dollars, while selected lots often go as high as four or five hundred dollars. There are in the several districts immediately around Austin seventeen steam mills, carrying nearly two hundred stamps, and capable of crushing and amalgamating one hundred and fifty tons of ore daily. Owing, however, to an inadequate supply of ore not one-quarter of these mills have been kept running during the past year, nor is even so large a proportion now in operation. With a more thorough exploration of the veins, however, upon which they are dependent for their supplies of ore, it is thought an additional number will soon be running, and that all will be able to do so in the course of a year or a year and a half at the furthest. The cost of reducing ores about Austin is now \$45 per ton; the expense of raising them is about \$15 per ton.

In several of the outside districts mines of not only undoubted, but very great value, some of them to all appearance not inferior to the Comstock ledge, have been discovered within the past two years. The most remarkable of these is the ledge known as the High Bridge, in the Philadelphia district, seventy-five miles south-southeast of Austin, the entire mass of vein-stone in which, varying from five to fifteen feet in thickness, pays under the stamps over one hundred and fifty dollars per ton. A small five stamp mill erected at the place and running on this ore turns out over a thousand dollars worth of bullion per day, the ore taken indiscriminately and worked in a very imperfect manner yielding over two hundred dollars per ton. This is beyond dispute an immensely valuable deposit of silver, and it is the intention of the companies claiming it to erect one or more large mills for reducing the ore the coming summer. In the Northumberland, Hot Creek, Danville, Reveille, and Pahrangat districts, all situated to the east and southeast of the Philadelphia district, many ledges of great promise have been discovered within the past year, some of them to all appearance quite as good as the High Bridge, showing beyond peradventure that a great silver producing region exists in this part of the State. Several small mills have been taken into this section, and many more of large capacity will soon follow, and it will be cause for surprise if the annual bullion product of the Reese River region, now about \$1,000,000, is not more than doubled within the next two years. These districts, as also the Murphy ledge, fifty miles south of Austin, a decidedly valuable mine, are all in Nye county, which contains a number of districts abounding in argentiferous lodes of great magnitude and prospective value.

The Reese River region contains thirty-two mines, of which twenty-two are in Lander and ten in Nye counties. These carry three hundred and ten stamps, have a capacity of four hundred and twenty-five horse-power, and cost \$1,500,000, the expense of erecting mills here being much greater (owing to cost of freight and lumber) than in the western part of the State.

Oregon.—The yield of the mines in this State the present year will not exceed \$2,000,000, nearly the whole being the product of placer diggings, and

mostly taken from the mines on John Day river and its tributaries. Several auriferous veins have been worked with arrastras for a number of years past at Althouse and State creek, in southern Oregon, paying, for the means invested, very largely; and there is no doubt but these mines, with ample facilities for reducing the ores, would turn out considerable amounts of bullion annually. Some attempts were made during the present year to work the quartz lodes, of which there are quite a good many in the Santian district, situated in the Cascade mountains, but the results obtained have not thus far been encouraging.

Washington Territory.—As in the State of Oregon so in this Territory, the only class of mines that have yet proved productive are the placer diggings, of which there is here a considerable extent; the best paying mines heretofore discovered being those about Fort Colville and in the Pend d'Oreille country, the Kootenai mines and those near the Big Bend of the Columbia, generally spoken of as being in Washington Territory, being in fact in British Columbia. The product for the present year from this quarter may be set down at about \$1,000,000, though this must be understood as embracing the yield of the last-mentioned districts, that of Washington alone not reaching one quarter this amount.

Utah.—This Territory is known to abound in many of the useful and, it is believed, also in the precious metals. Coal of fair quality and in considerable quantities has been found in various parts of the Territory, and both lead and iron have been produced for many years past by the Mormons living in the southern counties. That so little is known of its wealth in the precious metals is owing to the fact that the leaders of this people discouraged the searching after them, it being contrary to the policy of the church to have its subjects engage in mining pursuits, wherefore but little was known of the mineral resources of Utah until the soldiers stationed at Salt lake brought them to light. No placer mines of any extent have yet been found in this Territory, but a number of large lodes heavily charged with argentiferous galena have been opened at Rush valley, a short distance southwest of Salt Lake City, and, being tested by the smelting process, proved rich in both lead and silver. A number of furnaces were erected here two years ago, since which they have been kept part of the time in operation, and with suitable appliances it is thought a considerable amount of silver bullion might be produced from these mines. With the influx of gentile population Utah is destined to be thoroughly explored, and whatever mineral riches it may contain to be brought to light; and we may reasonably look for some important discoveries to follow in that section before long. At Egan cañon several rich silver-bearing lodes were located over two years ago. Three mills have since been put up at this point, two of which have produced quite a large amount of bullion.

The principal silver-bearing lode at this point, known as the Gilligan Ledge, has been tested to the depth of three hundred feet, and is considered to contain one of the richest veins in the State of Nevada. It has a width of eight feet, and has produced by ordinary process of mill-working at the rate of \$345 per ton, for fifty tons. The average of ore rates at something over \$100 per ton.

This valuable mine belonged, until recently, to a San Francisco company, consisting of seven private individuals, who worked it on their own account, under the superintendency of Mr. John O'Dougherty, who, by a careful system of operations, not only developed the mine, but built a five-stamp mill without expense to the company. It is one of the few mines in the county which has paid its own expenses from the first crushing of the ores.

During the past summer the mill has been idle owing to the departure of the superintendent, who went east for the purpose of procuring capital sufficient to erect a mill of the first class, with capacity to work all the ores that can be obtained from the ledge.

The Steptoe Company, of New York, have also large interests here, and own

a number of ledges, which, however, have not yet been developed sufficiently to furnish an absolute test of their value.

A consolidation has been formed between the Social or Gilligan company and the Steptoe, which will probably result in mutual benefits. The Steptoe company have capital, and have already made provision for the erection of a large mill; the Social company have a developed ledge already tested, and unquestionably productive.

This consolidation owns, in addition, some fine copper mines on the line of the proposed trans-continental railway. No work of any importance has yet been done upon them.

Egan cañon is situated one hundred and sixty miles from Salt Lake City, and already forms the nucleus of quite a thriving little mining town. The overland stage and telegraph lines pass through this cañon on the route to Salt Lake. Preparations are being made for the vigorous working of all the valuable mines in this district, and it is believed they will yield profitable results during the coming summer.

Montana.—The productive mines in this Territory have thus far mostly consisted of placer diggings, the principal of which, being situated east of the summit of the Rocky mountains, are without the province of these reports. The amount of gold dust taken out the present year has been large, but in the absence of any authentic data no accurate computation can be made thereof. According to the public press of that region it will reach the sum of \$15,000,000, though this is probably a rather high estimate. During the past summer a large number of quartz lodes have been taken up and opened, some ten or fifteen mills, varying in capacity from five to twenty stamps, having meantime been brought in and some of them gotten in operation. The quartz is easily worked, and yields largely, the product being chiefly gold. All the goods and machinery destined for the eastern part of Montana are freighted up the Missouri or across the plains. Most of the gold dust and bullion produced in this Territory is sent east, very little of it reaching California. Those best acquainted with the country have a high opinion of its mineral resources, and believe it will in a few years rival Idaho and Nevada, if it do not surpass them, in its product of the precious metals.

Idaho.—The product of the placer mines in this Territory has been gradually diminishing for the past two years, though this falling off, if it have not already been, will soon be more than made up by the yield of the quartz mines, which are beginning to be worked quite extensively. The product from both sources the present year will probably not fall short of \$10,000,000, some estimating it much higher. It should be observed that there are no means of arriving at accurate estimates of the precious metals taken out in this Territory, many of the millmen not caring to make known the results of their operations, and large quantities of dust being brought out of the country in private hands. Of the total sum produced, from one-fourth to one-fifth is taken from the placers, of which some virgin diggings of considerable extent and value have been found the past summer; and as ditches have been constructed for bringing water into the mines on quite an extensive scale, and hydraulic washing is being introduced wherever practicable, the probability is that the present quota from this source will be kept up for some time to come. There are now twenty-four quartz mills completed and running in this Territory, with eight others in course of erection. They carry a total of nearly four hundred stamps, cost in the aggregate \$1,000,000, and have a united capacity equal to five hundred horses. Besides these mills, about one-fourth of which are driven by water, there are a large number of arrastras running in the Territory, the most of which are also propelled by water. Of the quartz mills eight are supplied with one hundred and thirty-four stamps, are situate in Atturas county, ten in the Owyhee district, and the balance in the counties adjacent; the whole being in the southern

section of the Territory. The Poorman ledge, so-called, situate in the Owyhee district, is, perhaps, for its size, the richest deposit of silver ores ever discovered, immense masses of pure sulphurets, and even pieces of virgin silver weighing many pounds, having been extracted from it. Unfortunately, it is now closed up by litigation, and has not for several months produced any bullion. There are also several other rich silver-bearing claims in this vicinity, though the mines of Idaho consist mainly of auriferous quartz, of which there are great quantities that will yield by the most cheap and expeditious modes of working from \$20 to \$30 to the ton. Considering the abundance of these ores, the facility with which they can be treated, and the ample supplies of wood and water in the vicinity of the principal mines, it may fairly be concluded that the bullion product of Idaho will in a few years be more than doubled, and that the yield of her mines will hereafter be steady and rapid.

REPORT OF DR. A. BLATCHLY, MINING ENGINEER, TO J. ROSS BROWNE,
SPECIAL COMMISSIONER FOR THE COLLECTION OF MINING STATISTICS.

SOUTHEASTERN NEVADA.

This portion of the State of Nevada, owing to the hostility of the Indians, was almost totally unexplored until last spring. About that time, observing that the Indians in the vicinity of the mining towns were able to feed and clothe themselves much better than those who lived out in the mountains, they changed their tactics, and instead of opposing exploration, offered every facility in their power to promote it, and nearly all of the mineral discoveries in this region have been made by means of their assistance.

The volcanic rocks which so greatly predominate in the northern and western portions of the State are not found to any considerable extent in the southeastern. Hence, there is a much larger amount of metalliferous country accessible in the same compass than in other portions of the State.

These volcanic rocks are the despair of the experienced prospector, for he knows full well that they enclose neither metal nor mineral of any value in this country, and where they abound water is generally wanting. Their geological age is comparatively recent, and undoubtedly more than one-half of the metalliferous veins in the State of Nevada are covered by rocks of volcanic origin.

In this part of the State limestone predominates, but granite, slate, and sandstone occur at intervals. All of these rocks enclose valuable metalliferous veins in equal abundance.

This limestone affords better exemplifications of the geology of the sedimentary rocks than any other sections west of the Rocky mountains yet discovered. With the slight and hasty examinations already made, the silurian, triassic, and jurassic have been positively determined, and considerable evidence has been found of the existence of the Devonian and carboniferous epochs. In the territory of the United States no finer field exists for the researches of a geologist.

Trap dykes of porphyry and green-stone are abundant, and enormous veins of quartzite of three or four hundred feet in thickness can be traced for forty or fifty miles.

Compared with the veins found in California, Oregon, Idaho, and the other portions of Nevada, the metalliferous veins in this portion of the State are large, and usually can be traced on the surface for a long distance.

As this country has been but recently explored, all of the ores so far obtained have been taken from near the surface; consequently, only surface ores have been obtained. These consist of chloride and carbonate of silver, associated with small amounts of native silver, and nearly all contain gold. Besides the precious metals, ores of copper, lead, iron, antimony, and arsenic are abundant, and when railroads traverse the country, will be of great value.

So far as observed all of the geological formations contain valuable metalliferous veins, from the azoic up to the triassic.

As this portion of the State is about two hundred miles east and west by three hundred north and south, and contains a great number of districts, each of which has a very considerable extent, and contains a great number of metalliferous veins, it will be impossible in a brief space to do more than briefly notice some of the most important districts.

Silver bend, or Philadelphia.—This district, which was discovered by an Indian, is about seventy-five miles southeast from Austin. It was one of the first discoveries in this part of the State, and its mines have been more developed than those in the other districts.

One of the principal veins is the High Bridge, which crops to the surface for the distance of about a mile, and has been opened at a number of different points, and at one to the depth of about fifty feet. It appears to be composed of a number of different strata, all of which contain rich ore; their aggregate thickness varies from five to twenty feet.

The country rock is slate, and it has every indication of being a true fissure vein, and consequently will be found deep and permanent. It contains a large amount of good milling ore at the surface.

A small ten-stamp mill has been erected for reducing the ore, and the average yield is about one hundred dollars per ton, the mill saving about sixty per cent. of the silver contained in the ore. Its daily production is a trifle over one thousand dollars, provided it were fully opened; with suitable mills for the reduction of its ores the production of bullion could be increased tenfold.

The Silver Champion has produced richer ore than any other vein in the district. It is smaller than the High Bridge, and has not been opened but to a small extent. Besides this, there are a number of other veins in this district of great promise, as the Green and Oder, Silver Top, Minerva, and many others.

The metalliferous veins are found in slate and limestone, the greater number being in the slate, while the veins in the granite, so far as they have been examined, are entirely barren.

Northumberland district.—This district is about twenty miles north from Silver Bend, and on the same slope of the same range of mountains. Here the metalliferous veins are found in slate and granite.

Rich ores are found near the surface, and, when opened, there is no doubt that it will prove to be a valuable district.

Wood and water are moderately abundant, sufficient for the wants of the district for years to come.

It is singular that the granite at Silver Bend should enclose only barren veins, and at this district, which is only twenty miles distant, and in the same range of mountains, with granite apparently of the same lithological character, should contain some of the richest veins in this district. This shows the fallacy of the notion that some particular rock is, in all cases, more favorable for enclosing metalliferous veins than another of azoic or sedimentary rocks—experience showing that, in Nevada, all of the rocks, except the volcanic, contain valuable mines.

Hot creek.—This district was named from a group of hot springs, the waters of which uniting form a creek of some magnitude, retaining its heat for a long distance below. This furnishes an abundant supply of water for the use of the district. Along the banks of the stream the warmth of the water induces a growth of vegetation of tropical luxuriance, and many plants grow here that are not found in other parts of the State.

The country rock is chiefly limestone, with small amounts of slate and granite traversed by numerous trap dykes.

The metalliferous veins are large, rich, and numerous, and many of them show large amounts of valuable ore at the surface.

As this is one of the most recent discoveries, but little work has been done in developing and proving the mines. But the results of the workings of a number of tons of ore from different mines have been very satisfactory.

A small mill is nearly completed and will soon be in running order, and from the richness and abundance of the ores, and the experience of the managers, there is no doubt that the enterprise will be successful.

Wood is very abundant near the mines, being mostly nut pine, which is excellent for fuel, but very indifferent for lumber.

Reveille district.—This district is about forty miles southeast from Hot creek, and about the same distance northwest from Pahrangat. This is a more recent discovery than Hot creek, which it greatly resembles, having the same country rock, with veins of equal or larger size, containing the same ores, and the district is probably of equal value.

Pahrangat district.—This is the only mining district in the State that was discovered by Mormons or people from Salt Lake. It was found about a year before any other district in this part of the State. It is situated in the southeast corner of the State, about two hundred miles from the head of navigation on the Colorado river, according to what is believed to be the best authorities, although many others make the distance much less.

The mineral belt is long and narrow, and contains a great number of veins in a small compass. They are usually of fair size and well impregnated with ore, and when developed will no doubt prove valuable.

The country rock is the same as in Hot creek and Reveille, and the general characteristics are the same. The laws of this district are very liberal to the original discoverers, but almost entirely exclude later prospectors. They require no work on the mine except to pile a heap of stones, and that holds the mines perpetually. Hence no work has been done, and none probably ever will be done, by a majority of the present holders. A New York company have recently commenced operations, and no doubt will thoroughly prove their mine.

Silver Peak.—This district is about one hundred and twenty miles south from the city of Austin. The country rock consists of granite, slate, and limestone, the greater number of veins being in the slate. They are usually large, and contain both gold and silver, besides copper and lead.

A mill has been erected and run for a considerable time, but the workings were not very satisfactory, owing to the large amount that was lost in the tailings.

The Vanderbilt and Pocatilla are the two most noted veins in this district. They are of large size, and with a mill capable of saving the gold and silver would yield a fair profit.

A large number of other districts have been formed in this part of the State, as the Danville, Palmetto, Red Mountain, Pawdit, Columbus, and Volcano. From all of these specimens of rich ore have been obtained, but their true value can be determined only after they have been fully developed.

In Columbus district a few of the veins have been partially opened, and ore worked from them with most satisfactory results. In another year a mill will probably be erected, and with proper management ought to be successful.

Volcano district has veins which contain gold and silver, but is remarkable for croppings of larger copper veins than any others yet found in California or Nevada. These veins have not been opened, but the outcrop is of enormous magnitude, and the ore, besides copper, contains a small amount of silver. When this country has proper railroad facilities this copper ore will be of great value.

Although this mining region has been too recently discovered to admit of definitely proving its value by working on a large scale, still sufficient has been learned to prove that it contains vast deposits of ore rich in gold and silver.

Salt is found abundantly in nearly all of the valleys, in marshes or as an incrustation on the soil at the bottom of the basins. From these sources is derived all the salt that is used in the reduction of the silver ore throughout the State, the

annual consumption for this purpose in the State being very great. But at Pahrana-gat salt is found in a mine in vast quantities. It is in large transparent crystals, and also beautifully colored, green, blue, &c., as in the Cordana mine in Spain. This variety is much purer and stronger than that found in the valleys. This latter variety was deposited by evaporation, and contains much soda and other impurities.

Coal has been found at Volcano and Pahrana-gat and near Salt Lake, and from the geological structure of this part of the State it is highly probable that, when full explorations have been made, coal will be found in abundance, and of good quality. That found near Salt Lake has been worked to a considerable extent, and has been pronounced to be of excellent quality. At Pahrana-gat and Volcano no work has been done to prove the quality or extent, except what has been done by nature. This is a very fine field for exploration in a country like this, where, in the course of a few years, fuel will be a very important consideration.

As this region has been until recently infested by bands of hostile Indians, rendering it dangerous for small parties of prospectors to remain long in the country, considerable irregularities have been observed in the formation of new districts and in the framing of laws.

At Silver Bend a district was formed, and called the Philadelphia district, with laws and regulations as is usual in such cases. From a variety of causes the founders of the district were obliged to leave, when another set of prospectors came in, formed another district, and claimed the mines by virtue of their laws. The result has been vexatious and expensive litigation.

At Pahrana-gat the laws exclude new comers, and do not require the owners to do any work on the mines.

A general law by Congress regulating the formation of new districts, and making them a matter of record, so that after a district is once organized its existence can be easily proved, would prevent troubles of this nature from arising in the future; also a clause setting forth precisely the conditions under which a claim becomes forfeited. In many of the mining districts if no work is done on a claim for the space of one year the claim is considered to be abandoned. This clause in mining laws is pretty general, but in many courts it has been decided that miners by their laws have a right to prescribe the mode of possession, but not the mode of dispossession. As the mines in each district differ, and in one it is advisable to claim ground on each side of the vein, and in others it is not, these points can be better regulated by the miners themselves than by any general law, but in the formation of districts, and provisions for the forfeiture of a claim, some general law is requisite.

A. BLATCHLY,

Mining Engineer.

AUSTIN, NEVADA, November 26, 1866.

[From Governor McCormick's message, October 8, 1866.]

ARIZONA.

Finances.—The total territorial indebtedness, as audited to this time, amounts to twenty-one thousand and fifty-one dollars and forty-one cents, and there is a balance of two hundred and forty-nine dollars and fifty cents in the treasury to the credit of the general fund. Of this indebtedness, fifteen thousand five hundred and ninety dollars are payable in gold, being the amount of bonds (and interest on the same to January 4, 1867) issued under the act of the first assembly, approved November 9, 1864, and entitled "An act to provide for the contingent expenses of the territorial government." In view of the fact that until the present year but two of the counties were fully organized, and that

now, although all contribute to the revenue, the total receipts, owing to the limited amount of taxable property in the Territory, are small, this is no more than a reasonable debt. Compared with that of neighboring Territories, containing a larger population and far better sources of revenue, it is insignificant, and will be complained of only by those singular individuals who expect the wheels of government to move without cost.

Still I would advise that no expenditure of the territorial funds, however earnestly it may be asked, or necessary it may seem, be authorized by your honorable bodies without the most careful consideration; and if you can impress upon the counties the importance of economy in their affairs, it will be well to do so. In the matter of promptly and thoroughly collecting the revenue they should be urged to increased vigilance, not only for their own benefit but for that of the Territory at large.

Some seven thousand dollars of the gold bonds before referred to will become due in a little more than a year from this date, and although another legislature may meet before that time, it is not too early to make provision to insure their payment, and thus to sustain the territorial credit.

There is a balance of about five hundred dollars in the treasury from the special fund created by the sale of territorial mining claims, which I would suggest be assigned to the general fund; also, that all further receipts from such sales be so disposed of.

The Treasury Department having made the Territory an internal revenue district, and appointed an assessor and collector, we may soon expect to be called upon to contribute directly to the national revenue. I had hoped, in view of our comparatively small population, and the drawbacks with which we have to contend, that we should escape other than territorial taxation for the present. But it becomes us, as loyal citizens of the great republic, cheerfully to do our part, however humble it may be, towards cancelling the sacred debt incurred in preserving the national integrity.

The mines.—If there is less excitement over our mining interests there is more confidence in their excellence, and a strengthened belief that their development will surprise the world. Ten quartz mills will have been erected in this county alone before the close of the present year. Those already in operation afford a gratifying evidence of the value of the gold ores, and as the lodes are sunk upon they show permanence and size. The appearance of sulphurets and refractory elements at a certain depth may involve the necessity of more elaborate machinery, but no obstacles will, I think, be sufficient to baffle the enterprise of our miners, who, depending more upon their own energies and capital than upon help from abroad, are determined to know no such word as fail.

The rare advantages of wood, water, and climate are more than sufficient to offset the costs of living and the heavy expense of transporting machinery here, and I believe, as I have often asserted, that there are few localities upon the Pacific coast where quartz mining may be so economically, agreeably, and profitably pursued.

Those of the silver mines below the Gila, and on the Colorado, that are judiciously worked, with scarcely an exception, show great wealth, and fully maintain the traditional reports of the metallic opulence of the country.

The considerable capital now devoted to the development of the copper lodes on the Colorado and Williams Fork is but an earnest of that which this important work will soon command. The uniform richness of the ore, the quantity of the same, and the facilities for its extraction and shipment combine to make the mines among the most desirable of the kind upon the continent.

Mining laws.—The act of Congress to legalize the occupation of mineral lands, and to extend the rights of pre-emption thereto, adopted at the late session, preserves all that is best in the system created by miners themselves, and saves all vested rights under that system, while offering a permanent title to all

who desire it, at a merely nominal cost. It is a more equitable and practicable measure than the people of the mineral districts had supposed Congress would adopt; and credit for its liberal and acceptable provisions is largely due to the influence of the representatives from the Pacific coast, including our own intelligent delegate. While it is not without defects, as a basis of legislation it is highly promising, and must lead to stability and method, and so inspire increased confidence and zeal in quartz mining.

As, in the absence of necessary legislation by Congress, the act gives authority to the legislature of any State or Territory to provide rules for the location and working of mines to their complete development, it will be your duty to prepare such rules, either by amending the present mining law of the Territory so as to conform to the law of Congress, or by its repeal, and the substitution of an entirely new statute. Whatever your preference in this particular, I would suggest that care be taken to make the required rules as intelligible and comprehensive as possible, and that the recording and preservation of titles, both for the security of the miner and the capitalist, and to obviate future litigation, be entrusted only to the most responsible officers. It is also important that, excepting in districts where active hostility on the part of the Indians absolutely prevents, the actual occupation and improvement of claims be made a requisite to their possession, unless pre-empted under the congressional law. The lack of such a requirement hitherto has seriously retarded the development of our mineral resources and the general prosperity of the Territory, and proven discouraging to new comers, especially in the counties on the Colorado river, where hundreds of lodes, taken up in years past by parties now absent from the Territory, are unworked, and yet, under the existing law, no one has a right to lay claim to them, be he ever so able or anxious to open them.

Agriculture.—The valleys of the Territory, more extensively cultivated this year than ever before, have produced an abundant harvest. The yield of corn, vegetables, and small grain is such as to prove that henceforth we need not look abroad for food; and I make no doubt that if assured that their crops will be bought and promptly paid for, and they are properly protected from Indian incursions, our ranchmen will, during the ensuing year, by the favor of Heaven, raise all the breadstuffs that may be required to subsist the military force in the Territory. Here in central Arizona, even in the mountain districts, where comparatively little was expected in the way of agricultural success, the pursuit of the husbandman is likely to be one of the most profitable. The heavy rains of the present season indicate that irrigation will seldom be necessary, and the fertility of the soil is remarkable. It seems as though every thing planted attained the most luxuriant and complete growth in the shortest possible time. The grains, vegetables, and melons taken promiscuously from any of the ranches, and raised without fertilization of any kind, or other than the simplest care, would command a premium if placed in competition with the products of the richest and most expensive farms and gardens of the Atlantic States.

Land district.—By the seventh section of the act of Congress, approved July 22, 1854, the pre-emption privilege was extended to lands, whether settled upon before or after survey, within the region of country comprehended by the present Territories of New Mexico and Arizona. Hitherto pre-emption declarations, in virtue of this act and that of July 2, 1864, have been filed with the surveyor general, but Congress having made Arizona a land district, they will, so soon as the district is organized, be received here.

The congressional mining law provides that wherever, prior to the passage of the act, upon the lands heretofore designated as mineral lands, which have been excluded from survey and sale, there have been homesteads made by citizens of the United States, or persons who have declared their intention to become citizens, which homesteads have been made, improved, and used for agricultural purposes, and upon which there have been no valuable mines of gold,

silver, cinnabar, or copper discovered, and which are properly agricultural lands, the said settlers or owners of such homesteads shall have a right of pre-emption thereto, in quantity not to exceed one hundred and sixty acres; or said parties may avail themselves of the provisions of the homestead act of Congress, approved May 20, 1862. It further provides that upon the survey of the so-called mineral lands, the Secretary of the Interior may designate and set apart such portions of such lands as are clearly agricultural lands, which lands shall thereafter be subject to pre-emption and sale as other public lands of the United States, and subject to all the laws and regulations applicable to the same.

This favorable action, and the establishment of a land office, whereby all delay in perfecting titles will be obviated, must encourage our people in the cultivation of lands in immediate proximity to the mines—a matter of the first importance to the prosperity of our mining interests.

SECTION 5.

1. Copper resources of the Pacific coast.—2. Various copper districts.—3. Geological formations in which copper is found, &c.—4. Reduction of ores, quantity, &c.
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1.—THE COPPER RESOURCES OF THE PACIFIC COAST.

Introductory remarks.—The comparatively recent date when the importance of these resources first attracted any attention; the extent of territory over which they have been traced; the absence of any correctly compiled statistics connected with them in either the State or federal offices; the indisposition of influential parties to give any information, under the plea that it would expose the secrets of their business, and the efforts of others to make mines in which they are interested appear of greater or less value than well-known facts would warrant; the vague and unreliable nature of most of the articles which from time to time appear in the local papers on the subject, as well as many minor impediments, render it exceedingly difficult to convey a clear idea of the proportions and actual value of these resources in a hastily compiled report. Even were the fullest details of information available, many interesting facts must unavoidably be crowded out of such a report. Sufficient may be presented here, however, to demonstrate the extent and value of the copper mines of the Pacific coast, and to prove that under a more judicious system of development they may be made much more profitable to their owners as well as to the federal government, and that an important means towards the accomplishment of this end will be attained by the collection and proper arrangement of statistical and general information on the subject.

The discovery of copper on the Pacific coast.—The existence of copper on the Pacific coast was well known for many years before California became a State in the great American republic. The ores of this metal are known to have been found in Mexico, at various points, in great abundance for centuries past. In the territory within the limits of this State they were found as far back as 1840, near the Solidad pass, about ninety miles north of Los Angeles.

The first officially recorded discovery of copper in California, since it has become a State, was made by Dr. J. B. Trask, who acted as State geologist from 1851 till 1854. During that time, in the course of his travels, he found copper in nearly every county in the State—the first discovery being made near a place then called Round Tent, in Nevada county.

As but little attention was paid to the report of these discoveries, and the notes and specimens of the ores collected by Doctor Trask were soon after lost or destroyed, they exercised but little influence.

In the summer of 1855 public attention was again called to the fact of the existence of copper in this State, by the discovery of a body of beautiful ore at Hope valley, Amador county, by an old prospector, known as Uncle Billy Rodgers. The ore from this place, being rich in garnets, attracted great attention. About the same time a party of prospectors in El Dorado county found a large body of green and blue carbonates on a side of a hill a few miles from Placerville, and, attracted by the brilliant colors of these minerals, collected several sacks full of them and sent them to San Francisco, where, by assay, they were found to contain 40 per cent. of copper, and worth about \$140 per ton.

These discoveries were mentioned in nearly all the papers published in the State at the time, but were soon forgotten in the more exciting search for gold which occupied almost everybody's attention, and the now great copper resources of the Pacific coast remained without an effort being made for their development till November, 1860, when Mr. Hiram Hughes, returning from a trip to Washoe, whither he had gone to search for silver, while prospecting for that metal among the foot-hills that margin the valley of San Joaquin, without being aware of the fact discovered the gossan or cap of a copper lode, on what is now known as Quail Hill, No. 1—an insignificant mound among the Gopher hills, in the southwestern portion of Calaveras county, about 35 miles southeast from Stockton, and six miles from Central ferry, on the Stanislaus river. This gossan, which presented much the appearance of a body of iron-rust held together by a frame-work of quartz, was found to be very rich in gold, and it was for this metal that Hughes worked his claim. Soon after, while making further explorations for "iron-rust," he discovered the croppings of what is now known as the Napoleon mine, about three miles southwest of his first discovery. As there was less gold, and considerable of what was then, to him, an unknown mineral, in this place, he sent a lot of the ore to San Francisco, where it was pronounced 30 per cent. copper ore, and worth about \$120 per ton. As soon as this fact became known there was a great excitement, and everybody began prospecting for "iron-rust," and as the indications of copper were to be found almost at every point among the Gopher hills, hundreds of claims were speedily marked out and recorded—the favorite direction being along the course of the lode on which the Napoleon was located, as this was easily traced for miles; the most important "extensions" on the original lode being the Josephine on the west, the Lotus, Magnolia, and Collier on the east. But as none of these mines, except the Napoleon, ever produced much marketable ore, work on all of them very soon ceased. Hughes and his partners, after partially developing the Napoleon mine, which contained 2,700 feet on the lode, in 1862 sold eleven-eighteenths of it to a company for \$22,000. This company, in October, 1862, was incorporated under the title of the Napoleon Copper Mining Company, which, after taking out of the mine and shipping about 4,000 tons of good ore, sold the mine, in 1864, to Martin & Greenman, dealers in ores, of San Francisco, who at present own and work it.

Notwithstanding the great amount of prospecting that followed Hughes's discoveries, it was not till some time in June, 1861, that the lode on which the mines at Copperopolis are located was discovered, though it is only about six miles from the Napoleon, and the locators of the Union, Keystone, and other mines were all old residents and miners in the vicinity. W. R. Reed, Dr. Blatchly, and Mr. McCarty located 11,250 feet of the Copperopolis lode in July, 1861. This location embraced the ground now owned by the Union, Keystone, Empire, Calaveras, and Consolidated companies. Many interesting and instructive facts might be here introduced to exhibit the ignorance of the parties who first discovered these important mines as to the value of their property. The following will be sufficient to illustrate this curious fact:

J. W. Bean, esq., who built the first hotel at Copperopolis, had been mining for years among the Gopher hills and in the vicinity of Salt Spring valley;

and though such was the abundance and beauty of the specimens of copper ores all around him that he collected nearly a cart-load of them as curiosities to decorate his rude cabin, he afterwards threw them away as useless. In 1855 he had collected so many of these specimens that his partner would not have any more of them brought into the cabin.

Mr. Hughes, whose blindly-directed enterprise led to the discovery of the value of the copper resources of the Pacific coast, had also been mining for years among the Gopher hills; and although his observant attention had been attracted to the peculiarities of the rocks that form these hills, he had no idea of the stores of wealth that lay scattered so lavishly all around him till he had made a trip to Washoe during the excitement which followed the discovery of silver there. When in that Territory, being forcibly struck with the great resemblance between the rocks near the Comstock lode and those that he was so well acquainted with about the Gopher hills and Salt Spring valley, and not being successful over there, he returned to the old familiar field of his labors and commenced prospecting for silver, and did not know for many months after his return that he had acquired a fortune by discovering a copper mine. So with Mr. McCarty, one of the present owners of the great Union mine. He had lived in Salt Spring valley nearly ten years, mining and ranching by turns. As early as 1852 he had sunk a deep prospect-hole on the ground now belonging to the Keystone company, and threw away the rich copper ores as worthless, while seeking for gold, which he never found. So with Mr. Hardy, another of the original locators of the Union. This gentleman, a keen, intelligent man of business, who was for a long time the superintendent of that mine, and afterwards became senator for Calaveras county, resided for years within two miles of where Copperopolis now stands without having any idea of the immense wealth that lay stored up for him in the hard, sterile banks of the little creek that meandered past his homestead.

The limits of this report will not admit of any further digression on this very interesting history.

As soon as the magnitude and importance of the discovery made by Mr. Reed and his party became known, the rush of prospectors to the locality became tremendous, and in a few days claims were staked off extending for nearly twenty miles in all directions along the lode, or rather lodes, (for there are more than one of them,) across and parallel to them. Large sums of money were in many instances expended in the purchase and development of claims which were located miles away from all indications of any lode whatever.

One of the effects of this great excitement was the creation of the now thriving town of Copperopolis, the first house in which was built by Mr. Reed in September, 1861. In less than two years after it contained a population of nearly 2,000, which supported three schools, two churches, a weekly newspaper, four hotels, with stores and workshops of all kinds sufficient for an active, thrifty community. It now has three lines of stages running to and from it daily, and has a costly railroad in course of active construction to connect it with the navigable waters of the San Joaquin river, which, when completed, will more than double its wealth and population.

To give the names of all the claims that were located in and around Salt Spring valley during the first great excitement would serve no useful purpose, as most of them, after the expenditure of more or less labor, have either been abandoned altogether or are held till labor and transportation shall become cheaper or copper ores become more valuable. The most important mines in the valley at present—the only ones that are being developed—are the Calaveras, Empire, Union, Keystone, Consolidated, and Kentucky, which range from south to north in the order in which they are here written, and the Inimitable, which is located on the east side of and parallel with the Union. The developments in this and other mines located parallel with the original claims

leave little room to doubt that there are at least two—some persons say four—distinct lodes, or very large consecutive bodies of ore, identical in composition, independent of the main lode. The question of whether there is one or more lodes promises to be as fruitful a point for the lawyers to settle as a similar question was among the owners on the Comstock lode, in Nevada.

The thousands of persons from all parts of the State who were attracted to the Salt Spring Valley mines by the reports of their value, thus becoming acquainted with the general appearance of copper ores, on returning to their several districts soon discovered these ores almost everywhere, so that before the close of the year 1861 a well-defined belt of copper ore, containing several distinct lodes, was traced and partially developed from a point about thirty miles north of Los Angeles, at La Solidar, through Mariposa, Merced, Fresno, Tuolumne, Stanislaus, El Dorado, Placer, Nevada, Yuba, Trinity, Sierra, Plumas, and Shasta counties, to a point about twenty miles west of the town of Yreka, in Siskiyou county, where it enters the State of Oregon in a northern spur of the Siskiyou mountains, the most western branch of the Sierra Nevadas. As will be more fully explained in another portion of this report, there is a most remarkable uniformity in the direction and dip of the lodes in this great copper belt, as well as in the geological formations in which they are found, in the character of their ores, and in several other features, all which point to a simultaneousness of origin over very large tracts, many portions of which have been much disturbed and shifted by subsequent subterranean action.

Other extensive deposits of copper ores have been discovered in the coast range, particularly around the base of a spur of Mount Diablo, at the low divide in Del Norte county; in Hope valley, Amador county; at Whiskey Hill, in Placer county, and at several other points which it is not necessary to particularize at this time.

The results of all these discoveries were the location of thousands of claims, some of them of considerable importance, in nearly every county in the State, and the incorporation of a countless number of copper mining companies, whose certificates of stock were bought and sold at the public boards and by private merchants by thousands; and for about a year the development of the copper resources of the Pacific coast was prosecuted with great zeal. But a few months' experience taught those most deeply interested in the business that, with unskilled and expensive labor, uncertain and costly transportation, and a great distance from a market for the final disposal of the ore, it is unprofitable to work the richest and most extensive copper mines in the world.

The excitement attending the discovery of so much copper in California, as may well be supposed, soon spread through the adjoining States and Territories, and it was not long before many important lodes were discovered in Oregon, Nevada, Colorado, Sonora, and Lower California. As it will be quite impossible to even mention all these discoveries in detail, only a few of the most important will be referred to at this time.

In 1860 a miner named Hawes, who had long been working in that vicinity, having his attention attracted to the quantity of metallic copper found in the sluices of the miners who were engaged at Placer mining for gold, commenced a search, and soon discovered a valuable lode of copper ore in a small gulch about six miles from Waldo, Josephine county. On this lode was subsequently located the Queen of Bronze mine, the most important copper mine in Oregon. Soon after the discovery made by Hawes, other parties found an extensive copper district on the Illinois river, near the junction of that river and Fall creek, about eighteen miles north-northwest from Waldo. Another district was about the same time discovered at Rockland, in Josephine county, in which more than twenty mines of importance were subsequently located.

Copper has also been found in Wasco county; on the John Day river, and at several other points in the State of Oregon. The districts in Josephine

county being near the dividing line between that State and California, and the lode having been examined from Waldo to near Crescent City, Del Norte county, in the latter State, where an extensive district known as the Alta has since been developed, leaves no room to doubt that they are all located on the same great belt of copper ores referred to above.

The largest masses of metallic copper found on this coast have been obtained from these Oregon mines. One piece reported to have weighed half a ton was taken from the "Diamond" mine; another piece weighing four hundred pounds was taken from the "Cruikshank" mine, and a great many pieces weighing from one hundred to three hundred pounds each have been found in this vicinity.

In 1862 several valuable deposits of copper ore were discovered on Williams's fork of the Colorado river, in Arizona Territory, near where Aubrey City has been since located. But it was not till November, 1863, when Mr. Robert Ryland, of San Francisco, commenced work on the "Planet" mine, at this place, that the true value of these Arizona copper mines was ascertained. There are undoubted proofs of the existence of exceedingly valuable copper mines in this Territory, at various points convenient to the navigable waters of the Colorado and its tributaries. Mr. Pompelly, a scientific geologist and mineralogist, who subsequently was appointed mineralogist to the Japanese government, made an extended examination of the mineral resources of Arizona, and in the published report of his observations he refers particularly to the extraordinary richness and extent of the copper resources of the Territory. Other parties, who have travelled extensively through it since Mr. Pompelly, fully corroborate all that gentleman reported on this subject. Important mines have been discovered, and districts organized at many points in the Territory, among which are the Irataba district, about twenty-five miles southwest from Fort Mohave; the Freeman district, about sixty miles south of Williams's fork; the Chimewawa district, on the west bank of the Colorado, nearly opposite La Paz; the Salaza district, about thirty-five miles northeast of La Paz, and the Castle Dome district, about thirty miles north of the Gila. The formations in which the copper is found in this Territory are altogether different from those in which it is found in Oregon and California. The ores themselves are also quite distinct, and far more valuable than those found in these States. The details of these peculiarities will be given hereafter.

About the time the Colorado mines were discovered, a singular but quite extensive lode of copper ore, containing considerable metallic copper and silver, was discovered near Loretto, in the province of Comodu, Lower California. Several tons of exceedingly rich ore, which averaged sixty per cent., was brought to San Francisco in 1862, from the "Favorita" mine, also in Lower California.

In 1864 a number of valuable deposits of copper ores were discovered in various places in the State of Nevada. Among the most important of these discoveries are the "Peavine" district, near the Hennep pass, but a short distance from the line of the Central Pacific railroad. The completion of this road to the neighborhood of this district has given it much importance of late, the railroad company offering to deliver the ore in Sacramento at nine dollars per ton. Other copper mines have been located on Walker's river, in Esmeralda county, and on the south fork of the Carson river, in Ormsby county, and at other points in this State, the ores from which will be profitable to ship as soon as the completion of the Pacific railroad shall afford the means for sending them to a market.

The above hurriedly compiled notes, though giving the merest outlines of the extent of the copper resources of the Pacific coast, are sufficient to convey an idea of the magnitude and importance of these resources, which, under a judicious system of encouragement by the federal government, may be made to produce many millions of dollars annually.

The locality of the most important mining districts.—It will be impossible

under this heading to mention any except those in which well-known mines are located, and of these only to give the merest outline description. To avoid expansion, as the materials are very abundant, only those from which ores are known to have been exported will be referred to. These are the following:

The Copperopolis, Table Mountain, Napoleon, Lancha Plana, Campo Peco, and Copper Hill, in Calaveras county.

The Newton, Cosumnes, and Hope Valley, in Amador county.

The La Victorie and Birdseye, in Mariposa county.

The Buchanan, in Fresno county.

The Osos, in San Luis Obispo county.

The Solidad, in Los Angeles county.

The Genessee Valley, in Plumas county.

The Alta, in Del Norte county.

The Mount Diablo, in Contra Costa county.

The Rockland, in Oregon.

The Peavine, in Nevada.

The Favorita and Sauce, in Lower California.

The William's Fork, in Arizona.

Copperopolis mines.—The Copperopolis mines are located in Salt Spring valley, in the southwestern portion of Calaveras county, about thirty-five miles nearly east from Stockton, at the head of navigation on the San Joaquin river. This valley is large, beautiful, and well sheltered, and very fertile, producing all descriptions of fruits, grain, and vegetables, in the greatest perfection. Its peculiar excellence in these respects has caused it to be more or less under cultivation since the settlement of California by the Americans. It is bounded on the east by the Bear mountains, a lofty branch of the foot-hills lying between the Stanislaus and Calaveras rivers, which nearly divide Calaveras county into two parts. On the west it is bounded by a range of low broken hills which skirt the eastern side of the valley of San Joaquin. It extends nearly to the Calaveras river on the north. The most famous copper mines on the coast are located on the west of this valley, near the head of what is called Black creek, a small tributary to the Stanislaus.

The lode on which the Union, Keystone, Empire, Calaveras, and Consolidated mines are located passes through this valley in the direction of north 30° west. It has been more or less developed for about fifteen miles, and found to curve slightly towards the north, at its western extremity.

There are other lodes in this valley on which are located many mines known to be of great value, though they have not been as extensively developed as those on the main lode. It is claimed that there are four of these lodes, which range from a few feet to six miles in distance from the main one, but all follow the same direction. This cupriferous belt has been traced with comparatively slight interruptions from this valley to the American river, its general course being about north 15° west.

The most important mine in the valley is the Union. This contains 1,950 feet on the main lode, which was originally divided into thirteen shares of 150 feet each. But at present it is nearly all owned by Meader, Lalor & Co., merchants, of San Francisco, Mr. McCarty, one of the original locators, being the only one retaining any portion of their claim.

The owners of this mine never formed themselves into an incorporated company, as nearly all other mining companies generally do. Probably no necessity arose to compel them, as no assessments were ever levied on their shares, the mine paying well from the very commencement of their operations. It gave them a dividend of \$11,000 per share in December, 1862, and during the year 1863 the dividends amounted to \$20,000 per share, clear of all expenses. It is not possible to tell how much the mine has paid since, in consequence of

Meador & Co. having purchased it soon after the last dividend in 1863 was declared, and they have their own reasons for not making its revenue public. It is alleged that in the winter of 1863 that firm paid Mr. Reed, the locator of the mine, \$65,000 in cash for 975 feet. In 1864 Mr. Hardy, another of the original locators, it is stated sold his interest in the mine to the same firm for \$650,000.

There is but little doubt that this mine contains the largest body of yellow sulphurets of copper ever discovered. Some scientific gentlemen have expressed doubts as to whether this body of ore is a true vein, or merely a local surface deposit, as it does not present some of the characteristics of veins of similar ore found in other counties. The fact that it has been explored to the depth of upwards of 500 feet without any symptoms of its giving out, and that it has been examined for many miles consecutively, presenting the same general appearance throughout, is, to say the least, a stronger proof in support of the opinion that it is a continuous, regular vein, than any *theory* can be that it is not.

The work on this mine is carried on by means of three shafts, which have been sunk from 300 to 500 feet on the lode, from which several levels or drifts have been run along its course. For the purpose of hoisting the ore there is a fourteen horse-power steam-engine at the mouth of each of the two outer shafts. At the main shaft, from which the mine is drained, there is an eighty horse-power engine, which is used for both pumping and hoisting. Another shaft is in progress, and nearly completed, which is being sunk for the purpose of striking the lode at a depth of between 400 and 500 feet, at a point where it is known to dip considerably to the east. All the other shafts having been commenced on the lode, passed through it on reaching a limited depth, going further from it as the depth increased, involving an increased expense in running tunnels to strike it at each succeeding level.

The dimensions of this body of ore have been ascertained with tolerable accuracy, for a length of nearly 600 feet, and to a depth of upwards of 400 feet, by shafts and levels which have been made in it. Near the surface, for, say 150 feet in depth, the lode varied in proportions very much, ranging from one foot to twelve feet in width. At the depth of 200 feet in the main shaft it was nearly 21 feet wide; at 250 feet deep, it was nearly 30 feet wide; and continued of nearly the same width to 300 feet in depth, when it became less uniform, and began to decrease in proportions, till at the depth of about 400 feet at the north, near the Keystone line, it had decreased to about 6 feet in width, while for 200 feet north from the main shaft it is nearly 28 feet wide. As the Keystone company have recently struck the lode on their ground, within 100 feet of the dividing line between the two mines, at a depth of 360 feet, where it is 10 feet wide, it is presumable that its contraction in the Union, at nearly the same level, is not permanent.

It would be difficult to obtain correct information as to the product of this mine, from its opening up to the present time, as its proprietors seem averse to furnishing particulars. It is known, however, that the exports of ore from this State amounted to 5,553 tons in 1863, and to 10,234 tons in 1864, at least one-half of which was obtained from the "Union." The company's books show that from the 10th March to the 31st December, 1865, 25,542 tons of ore were actually shipped from the mine. As the firm owning it state that the average of all its ores shipped is 15 per cent., and estimate it to be worth \$75 per ton, it follows that its products for 1865 exceeded \$1,500,000 in value. The shipments for 1866, as will be seen by reference to the table of exports, will exceed those of 1865—the quantity shipped being only limited by the number of vessels available for carrying it away. The above figures will convey a slight idea of the importance of developing such a fruitful source of national wealth as is presented in the copper mines of the Pacific coast.

The Union company employ about 250 men about the mine, in the various

departments of its operations. None of the companies at Copperopolis employ any Chinese coolies.

The Keystone is next in importance to the Union, which it adjoins on the north. It contains 3,300 feet on the lode. It is owned by an incorporated joint-stock company, the shares in which are one hundred and fifty in number. It was on this claim that the first work of development on the lode was done, in what is still called the discovery shaft, on the north end of the claim, and which is still used by the company in their operations.

The shareholders in this mine have not been as fortunate as those of the Union. The Keystone has never yielded them a dividend since its discovery; on the contrary, it has cost them \$100,000 in assessments over and above the receipts from its whole product of ore, which up to October 1, 1866, amounted to 5,719 tons, worth, at \$75 per ton, \$428,925. The enormous expenses incurred in the development of this mine have probably been caused by mismanagement, and costly, useless experiments for concentrating the low-grade ores, of which the mine produces very large quantities.

The best informed among the stockholders in this mine estimate that it has produced sufficient ore to defray all the expenses of working. The \$100,000 collected as assessments have been expended in experiments and machinery. The company have very fine and powerful hoisting, pumping, and concentrating machinery. The latter is only used during the winter and spring, when there is an abundance of water available. The ores in the Keystone are identical with those in the Union, but they are not found in as large a body, or as compact. The lode in this mine has at no time exceeded ten feet in width, and it is usually so much divided by the containing slate that the cost of its separation by hand-labor causes it to be not very profitable to the company. At the depth of 260 feet in the main shaft the lode was only six feet wide, and contained a body of iron pyrites nearly a foot thick through the centre of it for nearly 150 feet in length, and it was further divided by seams of slate into irregular masses from one inch to six inches thick.

The greatest depth reached on this mine is about 400 feet. Quite recently, in the sixth level, at a depth of about 360 feet in the Houghton shaft—that is, the shaft nearest to the dividing line between this mine and the Union—a body of ore nearly ten feet thick was struck while drifting within 150 feet of this dividing line. In this body of ore there is only about four feet sufficiently rich to pay for shipping; the remainder is so divided by the containing slate, or contains so large a proportion of iron pyrites, as to fall below the average of 12 per cent. the present lowest grade of paying ore.

There are six shafts in this mine, only two of which, the discovery shaft and that nearest the Union, are in use—the cost of sinking and timbering the others being nearly a total loss to the company. In fact, the first two years' work done on the mine was wasted through the inexperience of those who were intrusted with its management.

The annual product of the Keystone, according to the books of the company, has been as follows:

1862.....	596 tons of 2, 376 pounds.
1863.....	758 tons of 2, 376 pounds.
1864.....	1, 506 tons of 2, 376 pounds.
1865.....	1, 743 tons of 2, 376 pounds.
1866, (till October 1,).....	1, 386 tons of 2, 376 pounds.

Total production..... 5,719 tons.

The company employ about one hundred men in the various departments of their works.

The Empire mine is located next to the Union, on the south. It contains

1,800 feet on the same lode. It is owned by an incorporated company, the majority of the stockholders in which are capitalists who reside at New York. This company have expended a very large amount of money in developing their mine. The greater portion of this expenditure, as has been the case with the Keystone company, has been wasted through incompetent management. Great improvements in this respect have been made recently, and the prospects of the company are promising. The explorations now in process show considerable good ore, and there are indications of an increase in the dimensions of the lode.

The ore in this is similar to that in all the other mines on the lode; but in the croppings on this claim there was considerably more quartz than there was upon any other claim on the lode. In this quartz, which was of a milky whiteness, there was metallic copper, crystallized in leaf and fern-like forms, which were exceedingly brilliant and beautiful when first taken out of their stony matrix.

The Calaveras is located next south of the Empire, on the same lode, of which it contains 3,000 feet. The croppings on this claim were exceedingly rich, but the lode has not proven to be so below the surface. Several shafts have been sunk and many drifts and cuttings made without finding any body of ore of importance. The company are not working this mine at present.

The Consolidated is located on the same lode, north of the Keystone. It contains 3,600 feet.

The Webster is the name of another important mine in this valley. It is located about one and a half mile east of Copperopolis, on a massive body of ore nearly twenty-eight feet wide. This ore is of a different character to that in the main lode, and is much less valuable; for, though quite solid and compact, it does not average more than eight per cent., in consequence of the larger percentage of iron it contains.

The Inimitable is another important mine in this valley, located on a different lode altogether. This mine is situated parallel with the Union, and but a few feet apart from it, on the east side. So close are these two mines together that the owners of the Inimitable had some intentions of suing the Union company for damages for taking out some of their ore on some of the lower levels, which they claimed was on the Inimitable's ground. The Napoleon mine, which is located four miles south from Copperopolis, is on the eastern end of a lode which runs through this valley, parallel with the main lode, but about six miles apart from it, which has been located upon for nearly fifteen miles. The Scorpion, Swansea, Massachusetts, Pacific, and other valuable mines, are located on this parallel lode. These lodes are easily traced to near the banks of the river, where they all disappear, and are not again visible till near the town of Montezuma, in Tuolumne county, six miles from the other side of the river. Gopher Hill, where the first discovery of copper was made, is supposed to be the extreme west of the main lode.

The above is not by any means a complete list of the mines in Salt Spring valley. There are scores of others, but these are the most important.

At present about one thousand men are employed in various capacities among the mines in this district, the larger proportion of whom are foreigners, chiefly English and Irish. No Chinese are employed about the mines except as cooks, washermen, and servants.

The Table Mountain mine is located about five miles southeast from Copperopolis, and about one mile from the Stanislaus river. It is the last claim on the main lode on this side of that river. It contains 2,150 feet on the lode, which is here about six feet wide, and much divided by the containing slate. This mine is owned by a joint-stock company of twenty-one shareholders. It has been considerably developed, and about one thousand tons of ore have been shipped from it.

The Campo Seco, Lancha Plana, and Copper Hill mines are located on a

continuation of the main Copperopolis lode, where it makes its appearance between the Calaveras and Mokelumne rivers. All these mines were discovered in 1861, shortly after the discovery of the Union and Keystone mines. They have been extensively developed, and the lode has been well tested by shafts and drifts. It presents the same peculiarities as were noticed at Copperopolis. It is quite large on the Campo Seco claim, being twenty feet wide at one hundred feet deep. It is scarcely as large in the Lancha Plana, and in the Copper Hill it is only about six feet. The character and composition of the ores are identical with those at Copperopolis, and they are contained in the same description of rock, and present many other features of similarity. Large quantities of ore have been shipped from these mines; but the present low price of ores, which is lower than it has previously been for the past fifteen years, leaves so small a profit after paying expenses that the companies are storing most of their ores in anticipation of an improvement in the market. About one hundred and fifty men are employed among these mines, about forty of whom are Chinese, who perform much of the labor above ground, such as separating and bagging the ores, &c.

Quite extensive concentrating works are being put up on the Campo Seco mine. The company intend to concentrate most of their ores into about fifty per cent. matte or regulus.

The Napoleon mine is located about four miles south of Copperopolis, in what are called the Gopher hills, a range of low, broken hills, very irregular in form and direction, on the east of the San Joaquin valley. They are the first hills met with after leaving Stockton and travelling east. As has already been mentioned, this was the first copper mine opened in California. As such, Mr. Hughes, who discovered both the Napoleon and the Quail Hill mines, claimed the latter as a silver or gold mine.

The Napoleon contains 2,700 feet on two well-defined lodes of ore, similar in composition to those at Copperopolis. It was located in November, 1860, and in October, 1862, was owned by an incorporated company; each foot in the mine representing a share of stock. In 1863 these one-foot shares were selling at \$100 each.

In consequence of the country through which the Napoleon lode traverses having been much disturbed by subterranean forces, it is extensively dislocated. The "faults," as the miners call these dislocations, are so numerous that all the other mines on this lode had to cease operations because they could not trace it far enough consecutively to obtain any extensive body of ore. This misfortune has happened to the Napoleon. At the depth of about 400 feet the lode, after narrowing from twenty to less than six feet, finally was lost altogether by a shift in the containing rock. The company have been engaged for more than a year in attempting to rediscover it. They have sunk a new shaft nearly 400 feet deep, some distance to the south of the old one. The prospects are that they will meet with a large body of good ore in this new shaft.

The Napoleon is located on the eastern extremity of a lode which has been traced to San Domingo gulch, twenty-five miles distant, where the Noble mine, owned by Pioche & Beyergue, French merchants of San Francisco, is located on it. The Napoleon commenced shipping ores in May, 1863.

The following statement, compiled from the books of the company, furnishes full particulars of the product of the mine:

Shipment of ores from the Napoleon copper mine.

Date.	First class.	Second class.	Concentrated ore.
1863.	<i>Pounds.</i>	<i>Pounds.</i>	<i>Pounds.</i>
May.....	36,826	45,302	.....
June.....	137,930	108,420	.....
July.....	185,498	61,014	.....
August.....	73,037	98,172	.....
September.....	250,234	230,873	.....
October.....	232,100	507,810	.....
November.....	187,480	284,920	.....
December.....	69,060	234,110	.....
Total.....	1,172,165	1,507,621	
1864.			
January.....	42,240	170,930	.....
February.....	44,330	367,020	.....
March.....	91,960	386,680	.....
April.....	30,470	334,940	.....
May.....	28,970	205,740	.....
June.....	17,160	232,100	.....
July.....	49,720	252,070	.....
August.....	6,820	159,750	.....
September.....		134,410	420,835
October.....		238,370	190,540
November.....		192,216	164,025
Total.....	351,570	2,674,226	775,400
1865.			
March.....		8,100	.....
April.....	20,250	115,950	.....
May.....		78,150	158,600
June.....		48,450	132,000
July.....			323,120
August.....			159,460
September.....		6,420	170,305
Total.....	20,250	257,070	943,485
Grand totals.....	1,543,985	4,501,917	1,718,885

Seven million seven hundred and sixty-four thousand seven hundred and eighty-seven pounds altogether, or nearly four thousand tons.

In September, 1865, the company sold the mine to Martin & Co., dealers in ores, of San Francisco. Since it has been in the hands of this firm, for reasons explained above, the yield of ore has nearly ceased. The total shipments from the mine since the purchase have not exceeded 150 tons, of which about one-half has been second class, and the other concentrated ore.

With reference to the classification of the ores in the above table, as the same method for that purpose is followed in all mines producing the same description of ores, it may be as well to explain that method in this part of the report.

The heavy costs for labor, bags, transportation, commissions, &c., causing all ores below 10 per cent. to be valueless on this coast, none are shipped below that grade; but as there is a considerable advantage gained by separating the ores which vary more than 5 per cent. in richness, the plan generally followed is to class all above 15 per cent. as first, and from 10 per cent. to 15 per cent. as second. There is some difference in the grade of the ores from the various mines. The Union ores are the lowest. The owners of that mine, being extensive shipping agents, have facilities for shipping ores of less value than will

pay to ship from any other mine. The average of all the ores shipped from the Union does not exceed 15 per cent. From the Napoleon they were above 16 per cent., causing a difference in value of nearly \$5 per ton. The Keystone ores are about 1 per cent. higher than the Union.

The concentrated ores above referred to were prepared by the following very economical process: A pit of about two feet deep was cut in the soft soil, about twenty feet square, in which was laid as evenly as possible about four cords of dry pine wood; over this was piled, in the form of a truncated cone, one hundred tons of ore. There was nothing more done, except to ignite the wood, which soon set the sulphur in the ore on fire, and it continued to burn for six or seven weeks, when the greater portion of the sulphur having been evaporated, the fire went out and the ore was concentrated about 6 per cent., or 10 per cent.; poor second class was converted into 16 per cent., or first class.

The machinery used on this mine consists of a small six-horse power steam-engine, for hoisting and pumping. There are usually about thirty hands employed on this mine, about one-third of whom are Chinese.

Quail Hill, No. 1, where Hughes made the first discovery of copper, is about three miles east from the Napoleon mine, and about seven miles west from Copperopolis. Quite a town, called Telegraph City, has sprang up between these two discoveries of Hughes's.

2.—VARIOUS COPPER DISTRICTS.

Forest Hill district.—The most important mines in Amador county are the Cosumnes, in the Forest Hill district, near Jackson, the county seat, and the Newton, on the same lode, about three miles to the west, near Ione valley, a beautiful and fertile valley, separated from the great valley of the Sacramento by low, irregular hills, as Salt Spring valley is divided from the valley of the San Joaquin. The Cosumnes was located in January, 1862. A company to work it was incorporated in February, 1863. It contains 5,000 feet on the main lode and the same quantity on the Oriental lode, which runs parallel and close to it. This Oriental lode, which is quite extensive, was discovered by the Rev. J. B. Fish, in January, 1863. It appears that the reverend gentleman was returning from a trip to Copperopolis, when he observed the croppings of the lode as he was riding past, the location being near the road. Getting off his horse, he satisfied himself that what he saw was copper ore, and located the claim for himself and friends. The parson's mine has produced nearly one hundred tons of good ore.

The Newton was located early in 1863, by Dr. J. Newton, of Jackson, in the names of himself and six members of his own family, who at present control it. Dr. Newton was the first person in this county who worked a copper mine in it.

Quite a town, called Copper Centre, has sprung up between these two districts. Two years ago it was one of the most active copper mining camps in the State—hundreds of claims having been located on the two copper belts, which can be traced for miles on both sides of the original claims. One of these belts is about six miles northeast of the other, and follows the same course as the parallel lodes at Copperopolis—north about 50° east. These lodes also dip from 10° to 20° to the east, as do those at Copperopolis; are in the same geological formation, and the ores are so much alike in appearance and composition that the best judges cannot tell one from the other. There is no doubt but that the Amador county mines are located on the same lodes as the mines at Copperopolis. There are many valuable copper mines in this vicinity, but though the great distance from a market, and the want of capital and experience of those who own them, work on all except the Cosumnes and Newton has ceased. Probably these would also have remained undeveloped had not Meader & Co., copper merchants of San Francisco, become interested in them.

A great deal of work has been done on the Newton, which has been sufficiently tested by shafts and drifts to prove that it is of great value, and this value would be fourfold greater if there were proper means for bringing the ore to tide-water. The lode on this mine is not so large as it is at Copperopolis, but the ore is less divided by the containing slate than it is in the Keystone. At one hundred feet deep the lode here was only three and half feet wide. It increased considerably as the depth of the shafts increased. Most of the ore from this mine will average 15 per cent. In 1864 it shipped about one hundred tons per month, averaging 16 per cent.

On the Cosumnes ground the lode is about ten feet wide at one hundred and twenty-five feet deep, and averages about 16 per cent. This company shipped about two hundred and fifty tons per month during 1864, averaging 12 per cent.

Hope valley.—The Rodger's mine, in Hope valley in this county, is located a few miles west of Carson cañon, on the borders of the State of Nevada, only a few miles from some of the highest peaks of the Sierra Nevadas. It was discovered in 1855, but has never been worked to any extent, though the ore is very valuable and of great beauty. It is not a regular lode, but a sort of chimney, which makes its appearance, about two feet wide and nearly perpendicular, in the face of a lofty bluff of solid, hard, white granite, at the eastern end of the valley. The only sign of this body of ore is confined to its exposure in the face of the bluff, and for about thirty feet on the top of it. A great deal of prospecting has been done in the vicinity, in the hope of finding a continuation of it, but in vain. The ore is accompanied on the south side by a body of hard, grayish, crystalline limestone, the only sign of that mineral for many miles around—the whole country being composed of bare, rugged cliffs and peaks of feldspathic granite. On the north side of the ore there is a seam, of about a foot wide, of dark brown quartz, of a peculiar cellular structure. There is a great abundance of brilliant lime garnets in this ore, which, together with the peculiar combination of sulphurets, oxides, and carbonates of which it is formed, render it exceedingly interesting for cabinet specimens; though it is very doubtful whether it will ever pay to extract it for commercial purposes.

Mariposa county mines.—The existence of important lodes or deposits of copper ores of considerable commercial value in Mariposa county was known for several years before any attempt was made to turn them to profitable account. The croppings of a series of large bodies of the ore are seen protruding through the surface all through the county, from where it unites to Merced county on the one side to where it joins Fresno county on the other. It was not until the summer of 1863 that any attention was paid to copper mining in this county. The distance from a market and want of roads, as well as the broken and disturbed condition of the geological formation in which the ore is contained, prevented men of experience and capital investing time or money in their development.

There are two extensive districts in which copper mining is carried on in this county. One is on the south side of it, on the Chowchilla river, near the dividing line between this county and Merced. This is called the Hamilton district. It embraces mines in both these counties. The other is the Hunters' Valley district. This is located west of the Bear Valley mountains and south of the Merced river. The La Victoire, the most important copper mine in Mariposa county, is in this district.

A good many companies are working in the Hamilton district; but thus far the developments have not been of much importance, as no shaft of any considerable depth has been sunk, and no permanent lode has been discovered. There is but little doubt that the mines in this county are located on portions of the great cupriferous belt referred to in the introductory remarks to this report as passing through the State; but the shifting and dislocation to which it has been subjected since its formation have so broken it up that it is exceedingly

doubtful whether any permanent mine will be discovered in the southern district of this county. Some activity has been imparted to this district during the past year by the erection of several smelting furnaces on a small scale, which, operating on the silicates, oxides, and carbonates of the metal, which are found in great abundance for miles around, make large quantities of regulus and black copper from 60 per cent. to 96 per cent. of fineness. The owners of these furnaces pay a fair price of all the ores of a suitable character the miners can bring. This will account for the activity in the district and for the shallowness of the explorations, as the ores cease to be of the class required at a few feet below the surface.

One of these furnaces has been erected on James's ranch, and another, about six miles distant, on the border of Fresno county, at Buchanan Hollow. From this latter place about one hundred and fifty tons of copper, in bars ranging from 80 per cent. to 96 per cent. of metal, have been exported from San Francisco to New York by Coffee & Risdon, the proprietors of the works.

The furnaces at James's ranch are constructed on the French plan, introduced on this coast, on the Queen of Bronze mine, in Oregon, by M. De Hierry, a French metallurgist of considerable ability. They are capable of operating on about eight tons of ore in twenty-four hours. The class of ores operated on have averaged about 12 per cent., the greater portion of which has been obtained from the Green Mountain and Lone Tree mines, near the works.

The company obtain plenty of pine wood charcoal at \$70 to \$80 per ton. All the smelting is done with this description of fuel. About a ton of this charcoal is required to produce a ton of marketable regulus. There are about a dozen men employed at each of these works.

The furnaces used at Buchanan Hollow are what are known as Haskell's water-lined, a brief description of which will be found under the head of "Processes," &c. They are of about the same capacity as those mentioned above, and consume about the same quantity of the same description of fuel. There are several of this latter description of furnaces in use in this State; one on the Cosumnes mine, in Amador county; another on the La Victoire mine, in Mariposa county, and several others are in an advanced state of construction in various localities.

About six miles south of these smelting works at Buchanan Hollow there are several of the best mines in this county; among them is the Bachman. In the shaft on this mine, at a depth of sixty feet, the lode is ten feet wide, composed of yellow sulphurets, identical in appearance and composition with those found at Copperopolis and Campo Seco, and accompanied with all the characteristics of the lodes in those districts, and affording many facts to prove a connection in the origin of all of them.

Near the smelting works on James's ranch there is a series of lodes, traceable for about ten miles, and ranging N. 24° W., corresponding very closely with those already noticed in Salt Spring valley. In a shaft sunk on the Dozer lode, one of this series, at a depth of eighty feet it was found to be six feet wide, composed of nearly solid yellow sulphuret. But, as was explained above, the disturbance of the containing rock does not hold out a reasonable hope of the permanence of any body of ore in the district.

Mr. Haskell, the proprietor of the Buchanan lode, has recently sold it and the smelting works above described to a firm at Stockton for \$22,000. This will afford a basis on which to estimate the value of the best mines in the district.

The "La Victoire" mine, in Hunter's valley, is a most valuable property, being second in importance to scarcely any copper mine in the State. It is located in a section of this county which has not been affected by those disturbing causes which have broken up the lodes in all the other sections. It also possesses the very great advantage of having an immense body of very

good ore above the level of the surrounding country, which enables the company to extract it without the use of expensive hoisting and pumping machinery. The lode runs through a hill several hundred feet in length and nearly three hundred feet high, cropping out on the very summit of it, and traceable, unbroken, through its entire length, at an average width of nearly five feet. The proprietors, who are mostly Frenchmen, have sunk shafts on the lode at both ends of the base of this hill to the depth of nearly two hundred feet, without discovering any material difference in its appearance, the only important change being that, while the lode dips to the east at an angle of 45° at twenty-five feet below the surface, at the base of the hill, at one hundred feet lower, it dips at an angle of 68° ; but, as it increases nearly a foot in thickness at the point where the dip changes, it is evident that the change has not been the effect of dislocation. A great deal of very rich ore has been taken out of this mine, much of it containing sufficient gold to pay for working it for that metal only.

It may be proper in this connection to state that the copper bars made in this county by the furnaces described above contain a very large per cent. of gold. Some of it, assayed by Kellogg & Hueston, of San Francisco, was found to contain as high as \$450 to the ton. Much of this copper contains \$50 in gold to the ton; none of it less than \$20.

There is a small smelting furnace on this mine, but it is not in use. For the past year but little work of any kind has been done on the mine in consequence of disagreements among the owners, one portion of whom are playing the game of "freeze out" upon the others.

There are several other good copper mines in this district, but those who own them do not appear to have either the means or disposition to develop them, and capitalists from abroad are afraid to invest very extensively in such mines in this county till they have been better examined.

San Luis Obispo county mines.—The Osos mines in San Luis Obispo county were discovered in the spring of 1864. They are situate about eight miles west of the Old Mission of San Luis Obispo, on the Osos ranch, near the south end of a wide belt of cupriferous ores that is traceable for more than twenty miles to the north, among the range of mountains which lay between the town of San Luis Obispo and the Old Mission of Santa Marguerita. This belt of ore, on which there are a great number of mines, presents very much the same peculiarities as are mentioned in the description of the Hamilton district, in Mariposa county. The disturbance of the lode by subterranean causes has broken it up to such an extent as to render it unprofitable to mine. The Osos district, as is the case with Hunter's valley, in Mariposa, appears to have been less affected by these disturbing causes. A shaft one hundred and ten feet deep has been sunk on the Osos lode, which was from four feet to twelve feet wide. One hundred tons of ore, averaging eighteen per cent., have been shipped from this mine direct to Boston and Swansea, and there are several hundred tons more ready for shipment. Ex-congressman Phelps is extensively interested in these mines.

Los Angeles county mines.—The Solidad district, in Los Angeles county, is located about thirty miles due north from Los Angeles. The knowledge of the existence of copper in this locality was published by M. Dufflot de Mofras nearly twenty years ago, as it was somewhere in the neighborhood that placer mining for gold was carried on as far back as 1840. Mr. Bidwell, member of Congress for California, saw these early gold miners at work, and probably saw the croppings of the copper lode, which are quite extensive and conspicuous for a long distance. In 1854 a Frenchman named Maris discovered the mines in what is now known as the Solidad district, but the discovery attracted no attention till the excitement about copper, which followed the discovery of the mines at Salt Springs valley, in 1861 and 1862, when great activity in prospecting raged in this locality, and a great amount of work was

done during the following two years. At present, and for more than a year past, none of the claims have been worked. Among the few important mines in this district are the La Solidar, Copper Hill, and Occidental. On the first named, at the depth of one hundred feet, the lode was found to be about seven feet wide. This is the deepest shaft in the district.

The geological formations and ores in this district are precisely the same as those already described in San Luis Obispo and Mariposa counties, and the same disturbing causes have broken up the lodes, which range in the same direction within a few degrees.

Plumas county mines.—The copper mines in Genessee valley, Plumas county, are the highest on this coast, the valley in which they are located being a small basin of a few miles in circumference, embosomed high up among some of the loftiest peaks of the Sierra Nevadas, which are clustered together in the northeast of this county. This portion of Upper Plumas contains some of the most magnificent scenery to be found on the coast. Immense granite ridges are seen rising bare and bleak two and sometimes three thousand feet above the densely wooded ridges at their base, while below, cañons thousands of feet deep form courses for the waters, which look like silver threads as they go meandering through the black gorges that lead them to unite with the waters of the Feather river, thousands of feet still further below. Nature appears to have performed some of her mightiest labors in this locality. Subterranean fires have piled up the molten rocks thousands of feet high, for the highest peaks are composed of lava, while the floods of water have worn the frightful cañons which furnish the bed for the present insignificant streams. Amid the very centre of so much ruggedness, caused by nature's greatest forces, Genessee valley forms a beautiful contrast, with its grassy fields and the curling smoke of its smelting furnaces and other evidences of the power of man. The belt of copper ores already referred to passes through this valley in a course ranging north twenty-five degrees west. As may well be imagined, in such a country, the lode has been extensively dislocated; but by examining the unshifted bodies of the containing slates, which may be traced for many miles, as well as the form and composition of the lodes, it is proved that this is part of that great belt. The chief copper mines, the Cosmopolitan, are located about five miles from the village of Taylorville, and three-fourths of a mile from a ranch which was originally located in the valley by a Mr. Gifford. They were discovered in the beginning of 1862. The inaccessibility of the place and the broken character of the country preclude the possibility of this ever becoming a very important copper mining locality. Nevertheless, parties interested in these mines have erected smelting works which have cost upwards of \$30,000, and made several tons of good regulus by a process invented by a farmer named J. C. Chapman, who never had any knowledge or experience in copper smelting till the discovery of these mines. As long as the parties interested in this enterprise could obtain plenty of oxides, carbonates, and silicates of the metal, which were quite abundant and very rich at the commencement of their operations, they obtained regulus sufficient to pay expenses; but as soon as they reached the sulphurets in the lode the works had to stop, as they were not adapted to operate on this class of ores. At the present time they are not in operation. These works were put up by Bolinger, Blood & Co.

At a depth of sixty feet the lode on the Cosmopolitan mine was found to be about fourteen feet wide, containing about ten per cent. of metal. It lies between the granite and limestone on this claim. The metamorphic slates and serpentine, which accompany the copper all through this State, are here a few hundred feet to the south.

Del Norte county mines.—The Alta district, in Del Norte county, is situated on what is known as the "low divide," an extensive plateau on the summit of a lofty range of mountains which divide the valley of the Illinois river from the

Pacific ocean. These mountains run through the northern portion of California and the south of Oregon, for more than one hundred miles, and cross the western branch of the Sierra Nevadas at nearly right angles.

Altaville, the centre of this district, is about fifteen miles northeast from Crescent City, Del Norte county. There are a great number of mines in the district; many of them have been extensively worked, and probably one thousand tons of good ore has been shipped from them since their discovery, in 1860. Among those which have shipped ore are the Alta, Union, Pacific, Lady Belle, Chrysopolis, Comstock, Diamond, Express, Pearl, Copper Hill, Excelsior, and a number of others. The Alta was the first mine worked in the district, and is the only one worked at present.

The mines in this district are not connected with the great copper belt so frequently alluded to in this report. This runs several miles to the east, where the Siskiyou mountains connect the counties of Yreka, in California, with Josephine, in Oregon. The ores in the Alta district are quite distinct in deposition, appearance, and character from those found in the mines on the great belt. The deposits are separate and distinct; of probably the same age and origin, as they are similar in other respects to those found around the base of Mount Diablo, and in the coast range further south. The first forty-two tons of ore shipped by the Alta company averaged forty-five per cent., and sold in San Francisco for \$7,000 cash, the cost of their extraction and delivery not exceeding \$2,000. They were red oxides, chiefly, of which there was a large body nearly three feet wide and fifty feet long, near the surface, but this was soon exhausted, as there is no well-defined lode on the ground. In fact it is doubtful whether there is a consecutive body of ore of fifty feet in length in the whole district. The croppings of what are supposed to be lodes—nearly a dozen of them—are seen ranging nearly north and south for many miles, but the body of ore beneath these croppings is so irregular in position, owing to the distortion of the serpentine in which they are contained, that it is almost impossible to tell in what direction the average of them do lie.

The Alta Company have sunk a shaft on their mine to the depth of nearly four hundred feet without finding a regularly defined lode. They meet with bunches of ore, chiefly yellow sulphurets of a very low grade, varying in size from a mere film to ten feet thick, but not sufficiently connected to make the mine profitable to work under the existing state of the copper market. This mine is exceedingly well situated for obtaining its ore cheap, if a large body of it should be found, as drifts could be run into the hill at a great depth at comparatively little cost.

The Rockland district is located about fifteen miles east of the Alta district, above described, and about thirty miles from Crescent City, Del Norte county, California. The mines in this district are located on the great copper belt, which may easily be traced in the vicinity for nearly twenty miles, in the direction of N. 28° W., the general trend of this belt, by which it may be followed from where first noticed, north of Los Angeles, to about twenty-five miles west of this district, which is a few miles within the limits of the State of Oregon. There are several other districts within this State in which important copper mines have been located on this belt; but time will not admit of any reference being made to them. The Queen of Bronze, near Waldo, Josephine county, the most valuable copper mine in Oregon, is located on this belt, about sixteen miles west from this point. Extensive smelting works have been erected on this latter mine, and thousands of tons of ore have been exported from these mines, which, as has been already stated, have been discovered since 1860.

There are some peculiarly interesting features connected with the copper mines of this district, which have a tendency to throw considerable light upon the subject of the action of volcanic forces on metallic ores, because in this vicinity an enormous volcanic dyke, nearly one hundred feet wide, approaches

the copper belt at an obtuse angle, within a hundred feet, and it is within this point of proximity that the large masses of metallic copper mentioned above were discovered. Another point in the same connection may be here mentioned. The age of the rocks containing the copper, throughout the whole extent of the great belt, has been tolerably well ascertained to be between the triassic and tertiary eras, and as this volcanic force, which has caused the conversion of the ores into metals from one end of it to the other, must have been exerted subsequently, the opportunity here afforded to examine the largest and most clearly defined dyke on the coast is very important.

Mount Diablo district.—The principal copper mines in the Mount Diablo district are located about the northern base, and up the side of a spur of Mount Diablo, called Mount Zion, and along the north side of Mitchell's cañon, near the town of Clayton, Contra Costa county. The first discovery of these mines was made in 1860, and considerable work was done on several of them for about two years, in efforts to discover the lode, but without success, as there is no lode in the mountain. The copper found here is not connected with the great cupriferous belt, but exists in detached bunches and masses, as is the case in the Alta district, in Del Norte county, described above. The croppings of the patches of ore here run north and south, as they do at Del Norte. Some metallic copper has been found on the north side of Mitchell's cañon, but in every case, after reaching a few feet below the surface, the ore, when found in bodies sufficiently large to take out, has been found of a very low grade; ten tons of selected ore shipped by the Keokuk company did not yield more than eight per cent. It is doubtful whether the mines in this district will ever pay to work.

Peavine district.—The Peavine district was discovered in 1864. It is located a few miles east of the Henness pass, in Washoe county, Nevada, one portion of it being within three miles of the line of the Central Pacific railroad. The district embraces an area of ten miles square, in which there are a great number of claims of considerable importance. The ores in all these mines are entirely distinct from those found in California, as well as the containing rocks. They are usually much contaminated with quartz, but they contain a large per cent. of gold and silver. The completion of the Central Pacific railroad to within a few miles of the district has given considerable impetus to prospecting, and a great number of companies are preparing to take out ore, the railroad company having informed those interested that it would carry ores to Sacramento, from any point in the Henness pass, for \$9 per ton. The ores of most of these mines being silicates, carbonates, and oxides, are very easily concentrated, a fact which the owners of the Bay State mine appear to be aware of, as they are putting up a small furnace, on Haskell's plan, to operate on all the ores they can purchase, as well as what they can obtain from their own mine. No ores of any consequence have been shipped from this district, in consequence of the distance to a market; but in 1864 a Doctor Landszwert made a number of large bars of fine copper from them, which were exhibited at the State fair, at Carson City, in that year. These bars contained \$150 per ton in gold, and about \$250 per ton in silver, according to the doctor's assay.

Lower California mines—Of the copper mines in Lower California but little of an authentic character is known. The Sancè mine, as described by Mr. W. Thompson, an old Cornish miner, who was superintendent of it for three or four years, is located near Loretto, a place in the province of Comondú, about thirty miles from the coast, where there is a good harbor. The lode is described as being from eight to ten feet wide, enclosed between walls of slate and granite. It has been extensively explored by shafts and levels, and about five hundred tons of ore have been shipped to Europe, where it sold for about five hundred dollars per ton. This ore, specimens of which have been brought to San Francisco, is of a very peculiar character, being a sort of talcose gangue,

containing flattened scales of metal of various sizes, from several feet in length and breadth, to small specks like fine gold dust. Many of the larger masses of this copper are covered with an incrustation of metallic silver, the only similar combination of these two metals found on this coast, though the combination of metallic copper and silver is quite common at the Lake Superior copper mines. This mine has not been worked for nearly two years.

Arizona mines.—The mines in Arizona, from which ores have been sent to San Francisco, are located on both banks of Williams's Fork of the Colorado river, where, there is but little doubt, will very soon be one of the most important copper mining districts on this coast. The existence of the deposits of ore now in course of development at this point was well known for several years before the discovery of the mines in California. A quantity of the ore from some of the mines about Mineral Hill was sent to Boston, as early as 1858, and examined by Doctor Jackson, the distinguished mineralogist of that city, who pronounced them of extraordinary richness. But a variety of causes, among which the want of means for transporting the ore was the chief, prevented any advantage being gained by the discovery till 1862 when the owners of the Planet mine shipped about one hundred tons of their ore to San Francisco, where it sold for a price that left a profit of upwards of \$100 per ton over and above all expenses for its extraction and transportation, the land carriage from the mine to the river, about twenty miles, having been done by pack-mules. A good road has been cut to connect the mines with the river since that time.

There are nearly fifty good mines in this district on both banks of the river. The Planet is the most important on the south, and the Mineral Hill on the north. The greatest activity has prevailed among these mines during the past year, and about 1,500 tons of ore have been shipped from them all collectively; the principal shippers being the Planet, Great Central, Mineral Hill, Philadelphia, Mountaineer, Mammoth, Copper Hill, and Occidental. Ten times the quantity shipped might have been sent had there been means for taking it away. Gentlemen just returned from these mines state that there are upwards of 1,000 tons of ore that will average 40 per cent., now lying on the river bank ready for shipment. The steamers and two or three schooners employed in the trade are wholly inadequate for the purpose.

Some of the mines in this district have been extensively explored by means of shafts, tunnels and drifts, and in nearly every case the body of ore has increased in importance in proportion to the extent to which it has been developed. The Mineral Hill company have run a tunnel on their mine for the length of 350 feet, out of which, while cutting, they took nearly 1,000 tons of ore of an average of 30 per cent., the whole work from the surface being in a body of ore. The ore in none of the mines in the district is found in a regular lode, as in the mines in California, but the whole country appears to be formed of the ores of iron and copper, the hills for miles around being colored red by the iron, or green and blue in patches where waters containing carbonate of lime in solution have percolated through the copper.

In running the tunnels and drifts through this extraordinary material, the miners run considerable risk of injury by being crushed by heavy masses of ore, which, having been held in place by large quantities of powdery oxide of iron, drop out when they are undermined in cutting the drifts. When such blocks fall out, in some cases hundreds of tons of this dry powder, which is nothing more nor less than iron rust, will come rushing down and block all further work till the opening can be timbered up.

The great body of ores found in the district being black and red oxides, silicates and carbonates, all of a character that admit of conversion into regulus by the application of heat alone, and by a single process, several of the companies have erected extensive smelting works. Martin & Greenman, who are

largely interested in the Mineral Hill mines, are putting up works that will cost nearly \$100,000 when completed.

Some of the ore taken from this extraordinary hill are so exceedingly rich in gold, that a 10-stamp battery is being erected to crush the ore and work it for the gold, by the ordinary processes adopted for saving gold from quartz; the tailings will be afterwards smelted for the copper they contain, nearly 40 per cent.

The gangue rock of nearly all these Arizona ores is composed of spathic iron, heavy spar and quartz; the ores found in California being free from gangue rock, though they are generally mixed with the containing slate or serpentine.

Knowles & Lightner, another firm, extensively engaged in these Arizona mines, are also putting up smelting works on their ground. The Great Central company have a set of such works in active operation, and turning out large quantities of good regulus of about 80 per cent.

Most of the labor done about these mines is performed by natives, Mexicans and Chinamen. Not more than one-fourth of the workmen are Americans or Europeans.

Aubery City is located on the north side of the fork, and would soon become quite an important place of business if sufficient tonnage could be obtained to carry away the ore that could be furnished by the mines in its neighborhood.

3.—THE GEOLOGICAL FORMATIONS IN WHICH COPPER IS FOUND.

Peculiarities of formations.—There are peculiarities about the geological formations in which the copper ores are found on this coast, which derive an interest from the great extent of country over which they can be traced. For instance: Not a single important body of such ore has been found on this coast, either among the coast range, the foot-hills, or among the Sierra Nevadas, except in the immediate vicinity, if not actually in serpentine or other magnesian rocks or metamorphised slates. This is the case in all the districts above described, the only exception being at Hope valley, Amador county. For the hundreds of miles over which the great belt of copper ores can be traced, it is never found except in one or the other of these rocks, and invariably without any gangue rock, except this containing slate or serpentine. This great belt of copper ore is never formed except in the immediate vicinity of the auriferous slates and quartz. As has already been mentioned, all the copper found on this coast contains a large per cent. of gold, and many of the most important auriferous quartz lodes contain a considerable per cent. of copper ore. In some sections of the State the gold itself is so much alloyed with copper that it is not more than half as valuable as that obtained from other sections. The numerous fossils that have been discovered in both the auriferous slates and in the vicinity of the great copper belt, prove that both formations belong to the same geological era. It may therefore be reasonable to suppose that the same causes which produced the one, at the same time produced the other. The nature of these causes has not been sufficiently studied to be of any practical use; though the subject involves many important practical and scientific points, such as the compilation of facts and the observations of practical men in the department you have just inaugurated may throw much light upon.

The costs of working the copper mines.—The cost of working the copper mines on this coast is, under the present system, a great impediment to the development of this source of national wealth. Expenses of copper mining are much influenced by three conditions: the convenience of the mine to the market for its product, the kind of labor employed, and the position of the mine in reference to facilities for working it.

The mines at Copperopolis, which are most favorably located with reference to the convenience for sending their ores to market, pay, on an average, about \$8 per ton to carry their ore from the mine to the ship which carries it to the

furnaces, about \$15 per ton as freight charges by these ships, and about \$4 per ton for bags in which to carry it; or \$27 per ton for carrying the ore to the nearest market, a sum nearly equal to the average value of all the copper ores obtained from the mines in England and the continent of Europe. Such mines as are located further inland, or in localities removed from main travelled thoroughfares, have to meet additional costs for transportation.

This expensive transportation compels a closer examination of the ore than would otherwise be necessary, and this work has all to be done by hand, in order to select only such of it as may be sufficiently rich to warrant the expense, requiring considerable skill on the part of the laborers employed. This operation costs, at a very low estimate, \$1 per ton for such ore as may be selected, and causes a waste, in some classes of ore, amounting to ten per cent. by mixing the crumbled rich ore among the slate and refuse, which is thrown on the dump pile, for want of a ready means for its separation.

The costs for bags alone, unavoidable under the present system, has been the cause of the stoppage of the work on several good mines. These bags are an enormous tax on the copper resources of this coast. There are no means, under this system, of avoiding this expense, as shipowners will not carry the ore to New York or Boston unless it is in bags. Occasionally, a cargo of one grade ore has been shipped to Swansea in bulk; but as it is very rarely that an entire cargo belongs to one party, or is of one grade, it is very rarely that this method of shipment is adopted. These bags are scarcely ever returned, and consequently are nearly a total loss. Meader & Co., who are largely connected with the shipping business, secure the return of a small portion of their bags, but as they have undergone the wear and tear of a six months' voyage round the Horn in a damp hold of a ship, and been subjected to the rough handling in scores of movings, they are of comparatively small value when returned.

The class of laborers employed, and the wages paid for their services, are another material condition greatly influencing the costs of copper mining on this coast. The average wages of copper miners, American or European, in California, except at Copperopolis, is about \$3 per day. The Keystone and Union, the two largest companies at that place, pay \$2 60 per day to all their laborers, whether they work above or below ground. Other companies in the valley pay \$3 per day for drifters, and \$2 50 per day for all other laborers. Many of the companies in other portions of the State employ Chinamen almost exclusively for all work done above ground, who work for \$1 per diem. As these Chinamen, under proper supervision, do as much work, and as well as any other class of laborers, it follows that those companies that employ them effect an important saving of expense. The owners of the Copperopolis mines have not introduced this class of labor in that locality lest it might create disturbances among the miners, of whom there are about eight hundred in the valley. These men, as is usual with their class, have an intense hatred to the Chinese, a feeling which is not by any means allayed by the knowledge that their presence and employment would insure a reduction in the rate of wages. It is quite probable the introduction of Chinamen to work on these mines would create considerable disturbance. But it is scarcely to be expected that proprietors of mines costing millions of dollars, the returns on which depend on the economy with which they are worked, will be deterred from availing themselves of the services of the cheapest labor in the market, through fear of the acts of any class of citizens. It being so much to the interest of the State that every facility should be afforded to those engaged in developing its mineral resources, any interference on the part of individuals or combinations to prevent the introduction of cheap labor for that purpose would be severely punished.

The mines in Oregon and in the northern portion of California pay from \$2 to \$3 per day for laborers.

At the mines in Arizona most of the work is done by Mexicans, who are

satisfied with about \$30 per month and a certain quantity of provisions. There are a good many Chinese employed at these mines, who are paid \$30 per month and board themselves. The Americans and Europeans employed are paid from \$50 to 60 per month in addition to their board.

The position of the mine, the facilities it possesses for working, is another important condition connected with the costs. Mines located in the lower level of broad valleys, such as those at Copperopolis, where they have to hoist everything taken out of the mine and to lower everything put into it by machinery, and to pump the seepage water of an extensive district from a sump-hole five hundred feet in depth, labor under the greatest possible disadvantage. The costs of engines, their wear and tear, and the expense of their superintendence and repair, imposes a cost of more than \$5 per ton on all the ores extracted from these mines. It is a fair estimate to calculate that every ton of ore taken from the Union and Keystone mines costs \$16 per ton as it reaches the surface. This calculation includes the division of all the expenses attending the conduct of the business of the mine by the quantity of ore actually shipped. These figures, explaining the costs of working the copper mines when compared with those showing the value of their products, show why so many good mines have stopped work during the past year.

The present price of fifteen per cent. ore at Swansea and New York is less than \$50 per ton. To obtain this it costs the mines at Copperopolis—

For extraction from the mine.....	\$16
Freight to San Francisco.....	8
Freight to Swansea or New York.....	15
Bags.....	4
Sorting.....	1
	<hr/>
Total.....	44
	<hr/>

This does not include any allowance for loss by broken bags or carelessness in handling after shipment, or expenses for commissions, &c. It must also be remembered that not one-half of the ore extracted from these mines will average fifteen per cent. It is known that Meader, Lalor & Co. have shipped thousands of tons of ore which did not exceed twelve per cent. These Copperopolis mines, exporting nearly three-fourths of the ore, furnish unmistakable data on which to base a calculation of the very slight margin of profits that arise from copper mining on this coast as at present conducted.

There are some mines, such as La Victoire, in Mariposa county, and those in some of the northern counties and in Oregon, in which the costs of extraction of the ore does not exceed \$4 per ton, as they are worked by tunnels and require no hoisting or pumping. But the cost of transportation is much greater from all these mines than it is from Copperopolis, and the quantity of fifteen-per-cent. ore costs more for selecting. The quantity of carbonates, silicates, and oxides obtainable in any locality in California and Oregon is so unimportant as not to come within range of calculations concerning the costs of regular mining.

It cannot be possible that this present condition of affairs connected with the copper resources of the Pacific coast is without remedy, as the annexed table will show. The mines on this coast within five years of their discovery, in spite of every disadvantage of inexperience in the work of their development and want of knowledge of the nature of their ores, have exported nearly eighty thousand tons of ore, valued at the very lowest estimate at upwards of \$5,000,000. A national source of wealth so productive in its infancy will not be left to die of inanition for want of the fostering care of the general government. As will be explained anon, to smelt the ores on this coast, with the present price of fuel

and the metal when made, would be but a partial and temporary remedy, the final success of which is involved in doubt. The recommendation of the chairman of the national revenue commission on this very point explains the only effectual plan that will secure the extended development of the copper resources of this coast. The following is a copy of the commissioner's recommendation referred to: "The commission therefore recommend that all excise duties on domestic copper be repealed; and that the duties on imported copper ores and copper be advanced to a moderate extent, or sufficient to relieve the copper mining interests of the United States from the depressing effects of the internal taxes upon their supplies, and to give to it as good a standing in our own markets, with reference to foreign competition, as they had before the present taxes were imposed."

4.—REDUCTION OF ORES.

Processes in use for smelting and concentrating the ores.—Numerous plans have been proposed and tested for the purpose of smelting and concentrating the copper ores found on this coast, none of which, for causes to be stated, have been entirely successful, though several of them have been partially so. A detailed description of all these various processes, and of the furnaces and apparatus used, while it might be both interesting and instructive, would be out of place in this report. Most of these plans which have been tested, on the large scale, have possessed some novel principle, which might be of advantage if employed in combination with old established processes, by those who possess the necessary skill, experience, and judgment to admit innovations upon systems under which they may have been educated. This seeming digression is intended to explain the principal cause of the failure of some of the most costly works that have been erected for the purposes to which this portion of the report refers. In not a few cases, those having charge of these works appeared to labor under the impression that it was so absolutely necessary to follow the old patterns introduced from their native land, that some German, French, and Cornish operatives seemed to attribute their failure to the fact that the laborers employed, and the materials used, did not understand the German, French, or Cornish language.

Early in 1862, works of an experimental character were erected at Antioch, on the banks of the San Joaquin river, near the base of Mount Diablo, for the purpose of testing the adaptability of the coal obtained in that vicinity, for smelting purposes; many persons, supposed to be authorities on the subject, expressing the opinion that such coal was unsuited for the purpose.

These works were erected under the direction of Mr. Thomas Price, an experienced Welsh copper miner, who has for several years been acting as agent for the Swansea smelters, for the purchase of copper ores on this coast—a gentleman of considerable scientific attainments and a first-class practical chemist and metallurgist. It may be proper to state further, that this gentleman, whose opinions on this subject of fuel should have much weight, is also professor of chemistry at the most famous college on this coast, and superintendent at the assaying and refining works of Kellogg, Hueston & Co., the most extensive private establishment in that business in the United States.

These works put up by this gentleman at Antioch consisted of a reverberatory furnace and roasting kiln, built on the plan of those in use at Swansea, but on somewhat smaller scale, and with a slight change in the form of the grate, to adapt it to the fuel. The furnace has a base of thirteen feet six inches long, by nine feet four inches wide, with a chimney-stack, for the purpose of creating sufficient draft and carrying off the fumes, sixty-five feet high. All these works were built of the best available materials.

As stated above, this furnace was built as an experiment, chiefly to test the

adaptability of the Mount Diablo coal for smelting purposes—to ascertain the quality and quantity of heat it generates.

It would occupy too much space to enter into any extended details of the nature of this coal; but it may be necessary, to make the subject plain to those who have never paid any attention to the study of such matters, to state that in a reverberatory furnace the fire in its passage up the chimney strikes the roof, and is forced down upon the ore by means of a “bridge,” built between it and the burning fuel. In all flames, no matter how generated, there is one portion more intensely hot than the others. This is called the “reducing flame” because of its action in reducing ores, under certain conditions, into metals. All coals do not produce a flame of the same nature or length, and the operation of the reverberatory furnace depends, in a great measure, upon its being so constructed that the “bridge” is placed so that the reducing portion of the flame is caused to strike the ore at the proper point.

After this explanation it will not require any technical or scientific knowledge of the principles of combustion to understand that a furnace to use fuel, which burns with a short flame and little smoke, requires great modifications in its construction when it is to be used to burn fuel which produces a long flame and much smoke. The experiments at Antioch settled this point clearly, if not satisfactorily, to those interested, and proves, for general information, that furnaces built on the plan of those used at Swansea, in which the short-flamed Welsh coal is used, are not adapted for the use of the long-flamed coals of the Pacific coast. But the question whether this long-flamed coal could not be used for smelting purposes, in a suitably constructed furnace, remains still unsettled. Mr. Price states this Mount Diablo coal could be economically used for that purpose in a properly constructed furnace, but thinks no attempt should be made to proceed any further than in the conversion of the ores into regulus. The price of all descriptions of coal being so much higher on this coast than a better article can be obtained in other countries, the refining of the metal can be more profitably done in those countries.

It is much to be regretted that the company, which expended nearly \$50,000 in making these experiments at Antioch, did not carry them out to a full conclusion, by permitting Mr. Price to make such changes in the form of the furnace as his skill and experience may have suggested. But in California, where money commands from 18 to 24 per cent. interest, such experiments are not considered profitable.

The first bar of metal from the Antioch smelting works was received at San Francisco on the 14th of September, 1863, and created almost as much interest as the first bar of bullion from Washoe. During the time these works were in operation they produced about 200 tons of matt, or regulus, of an average of about 50 per cent., the balance being iron, sulphur, silica, &c. This was obtained from about 2,000 tons of ores from various parts of the State, but chiefly from Cop-peropolis, of an average of about 10 per cent., which the company advertised to purchase at the following prices:

7½ per cent.....	\$15 per ton of 2,376 pounds.
9 per cent.....	17 per ton of 2,376 pounds.
10 per cent.....	19 per ton of 2,376 pounds.
11 per cent.....	21 per ton of 2,376 pounds.
12 per cent.....	25 per ton of 2,376 pounds.

None were accepted below 7½ per cent.

The coal used in the operations cost about \$7 per ton delivered on the grounds of the company. One ton of this coal, it was estimated, would reduce two tons of ore, after the furnace had become thoroughly heated; but in consequence of the difficulty in obtaining good materials for lining it the furnace was not kept steadily heated. The best imported fire-bricks, in consequence of the ac-

tion of the sulphur in the ore, would not endure more than about fifteen days. Work had consequently to be stopped within that period, and everything cooled off, in order to re-line the furnace. This entailed a great loss in the cost of fuel and labor, as well as of metal, and as the works were only calculated to operate on about eight tons of ore in twenty-four hours, these stoppages absorbed all the profits.

A Mr. Henry Davis, another practical Welsh copper smelter, who had been in charge of an extensive smelting establishment in Chili previous to his arrival on this coast, has made a number of experiments at the works at Antioch since they were closed by the original owners. This gentleman also expresses the opinion that the Mount Diablo coal, used in a properly constructed furnace, could be profitably employed in the reduction to regulus of such ores as will not pay to ship in bulk.

The smelting works erected at the Union mine, at Copperopolis, are on a more extended scale than those at Antioch. They cost nearly \$75,000, and consist of two cupola blast furnaces, and other buildings, which were erected under the superintendence of M. Desormeaux, a French engineer, on the plans introduced on this coast by M. D'Heirry, a very skilful French metallurgist, who has erected similar works on the Queen of Bronze mine, in Oregon. The whole establishment consists of four large kilns for roasting the ores to deprive them of a portion of their sulphur, two large blast furnaces on the most approved German plan, with a powerful blast set in motion by a 20-horse power steam engine. The kilns are each capable of roasting 500 tons of ore at a batch, which required from 7 to 12 weeks to burn, according to the weather and the care taken in laying them. After burning in these kilns the ore was placed in the blast furnaces, which are capable of operating on eight tons of such materials, each, in twenty-four hours. The only flux used in any of the operations was a portion of the slag from previous meltings, or silica in the form of quartz. The ore came from the furnaces, after the first operation in them, in the form of two qualities of regulus, the one containing about 80 per cent. of copper, the other about 40 per cent. This regulus was afterwards broken up and re-melted three or four times, in order to deprive it of all the sulphur, and to oxidize the iron as much as possible. No attempts were made to refine this matt into tough copper. The costs for fuel in these operations were exceedingly heavy, as charcoal, costing from 37 to 50 cents per bushel, had to be used. This, together with the necessity for handling the materials so many times by expensive and unskilful laborers, rendered the operations so unprofitable that the works were discontinued after a few months' trial—not before some 5,000 tons of ores, averaging about 8 per cent., had been converted into regulus, which sold from \$200 to \$250 per ton, showing that these waste ores may be rendered valuable if they can be operated upon by some cheap process.

The smelting works at the Cosmopolitan mine, at Genesee valley, Plumas county, cost about \$30,000. These are constructed on the plan described by Piggott, in his work on copper, somewhat modified by Mr. J. C. Chapman, one of the proprietors of the mine, under whose directions the works were built. The blast here is generated by two double-action piston bellows, four feet in diameter, set in motion by a large water-wheel. No ores have been operated on at this place except oxides, carbonates and silicates, and as long as plenty of such ores were attainable, this company was able to obtain respectable quantities of good matt and inferior copper; but when the supply ceased, they had to close up their establishment, as it was not adapted to operate on sulphurets.

At these works the molten materials were not drawn off into rough bars and remelted, as at Copperopolis, but they were run into a sort of cauldron built in front of the furnace, in which they were kept sufficiently liquid to allow the copper to fall to the bottom by its superior specific gravity; and as the slag,

being the lightest, floated on the surface and cooled quickest, it was scraped off and thrown away; the copper, on cooling, readily separating from the regulus which was allowed to cool above it. The latter was remelted and the former was ready for market. The fuel used at these works was pine wood charcoal, costing about thirty-seven cents per bushel.

Other smelting works, of a novel and very economical and useful character, have been erected on the La Victoire mine, at Hunter's valley, Mariposa county; at the Buchanan mine, in Merced county; at the Campo Seco mine, in Calaveras county, and at several other mines in various portions of the coast, on a plan introduced by Mr. Nathaniel Haskell, a California mechanic, and called by him the "water-lined cupola furnace." These furnaces are capable of reducing twenty tons of oxides, carbonates, or silicates to good regulus in twenty-four hours.

The peculiar feature of this useful invention is a "water lining," which may be described by stating that the cupola consists of two parts, one within the other, like the divisions of an onion. These parts are formed of stout iron boiler plates, strongly riveted at the joints. Between the two there is a space of about six inches; this is kept constantly filled with cool water, by means of a tank above. This cool water saves an immense quantity of heat that would otherwise be lost by radiation, and, as a matter of course, affects a corresponding saving in fuel. No fire bricks are used in these furnaces, which, besides being a great saving in the consumption of this costly article, affects an additional saving by requiring no time, labor, or heat to be lost in replacing these bricks every few days, as they become destroyed by the heat. A very powerful and even blast is kept up in these furnaces by a large cylinder bellows, set in motion by a small steam-engine. One of these furnaces, used at the Buchanan mine, has produced upwards of 100 tons of good marketable copper during the past year, which has sold at San Francisco for from \$300 to \$320 per ton of 2,000 pounds. That at the La Victoire mine, has only recently been put into operation, but is producing 80 per cent. of regulus at the rate of 24 tons per week.

It may be quite proper to state that these furnaces are not adapted to operate on ores containing a very large proportion of sulphur, unless they have been thoroughly calcined, and are combined with a large proportion of other ores or suitable flux. The sulphur has a very damaging effect on the iron of the cupola when both are heated to the necessary temperature to melt the ore.

These furnaces will be of great benefit to the owners of mines containing large bodies of oxides, silicates, and carbonates, which are of too poor a quality to ship to market in bulk. They are very cheap and portable, the cupola, blast, engine, and boiler only costing about \$3,000, and all combined only weighing about five tons.

In 1862 a lady, a Mrs. Hall, invented a novel description of furnace for smelting copper ores, by means of jets of superheated steam being passed into the cupola during the time the fuel and ore were in an incandescent state. To the cupola of this furnace was attached an apparatus for condensing the fumes, previous to their passage into the chimney. This invention was very much lauded at the time by Colonel Charles Harazthy, in a letter published over his own name in the papers at San Francisco.

The concentrating works erected by the proprietors of the Keystone mine at Copperopolis are on the principle adopted by some of the large copper mining establishments in Cornwall, England. The ores in these works are operated upon by water. The object sought to be obtained is the separation of the gangue rock by means of the difference in the specific gravity and hardness in it and the ores. There are conditions in which this process is quite simple, cheap, and effective. It is so where the ore is contained in a silicious gangue, or in hard spar, in a locality where there is an abundant supply of free water, constantly running, and where there are plenty of cheap laborers to be had

who understand the details of the operations. But as none of these conditions exist at Copperopolis, the experiment, which cost about \$50,000, if not an absolute loss, has been only so far successful as only to be of use, at a very heavy expense, during a few months in the winter, when the rains fill the company's reservoirs. And then, in consequence of the ore being free from gangue rock, and the containing slate, from which it is sought to separate it, being of nearly the same specific gravity and hardness, it is not possible to save more than three-fourths of it, at a cost of more than it is worth.

These works have been erected in the best manner and of the best materials, under the directions of Mr. Pawning and his brother, two thorough, practical machinists. In the operation of these works the ore is brought between two heavy iron rollers, where it is crushed as fine as possible, and afterwards led, by means of an endless belt, on to five "jiggers," or shaking tables, which are each contained in a large tank of water. The motion of these tables causes all the lighter particles to float off in the stream of water passing through the tanks. These fine particles are collected in "settlers," dried and saved. The coarser grains which do not float off are retained in sieves arranged beneath the tables, and are returned to the rollers to be reduced to the proper fineness. The machinery of this cumbrous contrivance is set in motion by a sixty-five horsepower steam engine.

Many other companies concentrate their ores, to a slight extent, by the process described in the description of the Napoleon mine, given in another portion of this report, with such modifications as the judgment of the parties carrying on the work may suggest, or the necessities of the case may compel.

The above will probably not be considered a flattering account of the various processes that have been introduced for concentrating and smelting the copper ores found on this coast. But the many failures therein recorded are not of a character to discourage so energetic a people as those of the Pacific coast.

The want of success is in so many instances so clearly traceable to the want of skill and experience on the part of the operators that it is evident a plan for profitably working the lowest of these ores will be devised when experience shall have taught those engaged in the business the defects and advantages of the various processes now in use.

The few observations contained in this division of the report should be sufficient to convince any reasonable person that the manufacture of refined copper on this coast, with profit, is an impossibility under the present state of affairs.

In reviewing the above remarks on these processes, it will be observed that the furnace erected at Antioch was erected as much to test the coal as to smelt the ore. It was made of only sufficient capacity to operate upon eight tons of ore in twenty-four hours. This was a serious error and a material source of loss.

The furnace should have been made of a capacity sufficient to have operated upon at least ten tons. Twelve or fourteen tons would have been better, as it requires nearly the same quantity of fuel and the same amount of labor to operate upon eight tons of ore as it would to operate on ten or twelve tons.

The furnaces at the copper mines in Chili, which are built on the same general plan, and operate upon ores very similar to those found on this coast, and use a fuel very much like that used here, are constructed of a capacity to work from twelve to fourteen tons of ore in the twenty-four hours.

The Chilian copper smelters have no better indigenous coal than is to be found on this coast. They are compelled to import the greater portion of the coal used in their works from England. As good an article, and at as low a price, may be obtained here from Sydney, if it is absolutely necessary to import any coal at all.

In California, in consequence of the absence of readily available quantities of oxides, carbonates, and silicate ores, and the preponderance of ores contain-

ing a large percentage of sulphur, smelting will always be more expensive than it is where a different class of ores are used, because it is necessary to put such sulphur ores through the preliminary process of roasting, which is costly, slow, and sometimes causes much loss. The object of this process is to expel the sulphur, arsenic, antimony, phosphorus, or other deleterious element that the ore may contain, and to oxidize the iron as much as possible. But if this process be carried too far, or the ore contains a very large proportion of the sulphuret of iron, or when the heat becomes excessive, a fusion takes place, which makes the separation of the metal from the sulphur much more difficult. This action in the roasting process caused the loss of many thousands of dollars to the proprietors of the Union mine, by requiring the regulus produced at their smelting works to be roasted three or four times to expel the fused sulphur from it.

With Sydney coal, which may be landed at San Francisco at \$9 per ton, the reduction of low grade ores to 50 per cent. regulus could be made a very profitable investment for capital. The necessary works, if erected on sufficient scale to afford a market for, say, 8 per cent. ores, would give an immense impetus to the development of the copper resources of the Pacific coast; because, without some such market, all the ores of that standard will be valueless for many years to come, and they form about seven-eighths of all the ores on this coast.

To prove that such works would yield a large profit on the capital invested, the following calculation is here given:

Costs attending the conversion of ten tons of 10 per cent. ore into 45 per cent. regulus:	
Ten tons of ore, at \$16 per ton.....	\$160 00
Roasting in heaps, at \$1 per ton.....	10 00
Six tons of Sydney coal, at \$9 per ton.....	54 00
Labor of four men.....	15 00
Incidental expenses.....	10 00
Total costs.....	<u>249 00</u>

Per contra:

Ten tons of the above ore produced two and three-quarter tons of regulus of 45 per cent. This is worth \$4 per unit, or.....	\$495 00
Deduct freight and expenses attending export.....	<u>100 00</u>
Leaving balance.....	395 00
From this deduct cost of ore and reduction.....	<u>249 00</u>
There is a clear profit of.....	<u>146 00</u>

This profit would be fully 20 per cent. larger if one thousand tons of ore were operated upon.

The Bristol copper mine, in Connecticut, when under the management of Mr. H. H. Sheldon, the present superintendent of the Keystone mine, at Copperopolis, paid a very large revenue to its proprietor from ores that did not exceed 3 per cent. in value, on an average. Such a person, after a reasonable amount of experience on this coast, will certainly be able to devise a plan by which ores of three times that value may be worked to a profit.

Among the principal causes of the failure of the smelting works tried on this coast have been—

- 1st. The uniform character of the ores operated on.
- 2d. The want of experienced and steady, skilled laborers.
- 3d. The misconstruction of the furnaces.

At Swansea the smelters have the advantage of purchasing ores of all or any classes, as all are brought there from many different districts. With this assortment of ores at their command, they can arrange the charges of their furnaces to suit their fuel. On this coast there are no established means for obtaining such a wide selection of ores as will admit of their being combined so as to be worked with advantage. Most of the smelting works which have been tried on this coast operate on the ores from generally the one mine on which they were erected, and these are generally of one class.

The furnaces built on this coast have generally been copies of such as are used in England, Germany, or France, where fuel of a totally different character is used. The impatience of the parties interested in such works to obtain from them immediate profitable results has prevented the necessary experiments being made to adapt these imported furnaces to our local fuel.

No smelting works have been carried on long enough on this coast to discipline a sufficient number of workmen to conduct the details of the operations with the care necessary to insure success. The few good workmen who have come here from England, France, or Germany, all aspire to be superintendents, or to own a mine themselves, without possessing the ability to impart their knowledge to the more intelligent laborers placed under their direction.

All these obstacles to success would be in a great measure removed if extensive works were to be erected at some convenient central point, where those having ores to dispose of could always find a fair market. Such works, properly conducted, would yield a liberal return on the money invested in their erection, and would be of incalculable benefit to the copper interests of the Pacific coast.

The export of copper ores from the Pacific coast.—It is difficult to obtain a correct return of all the copper ores exported from this coast, as the custom-house authorities have not kept anything more than an approximating account of such as have been shipped through that department; the manifests of the vessels in which it has been shipped in many cases not specifying the quantity of ore taken, only giving its value; in some cases entering it as so many packages of unspecified merchandise of a stated value. This makes it difficult to estimate the quantity, because at the commencement of this exportation the ore was shipped in barrels, casks, and boxes, some of which contained nearly half a ton each, and as the value of the ore differs so much, the value given, if correct, would furnish no basis for calculating the quantity.

It is through this cause that the published reports of the exports of ore given in the leading commercial papers of San Francisco at stated intervals differ so much with one another. The reports of the exports for the nine months of the present year, published in these papers, are as follows:

The *Alta*, 15,174½ tons; the *Bulletin*, 15,350¾ tons; the *Commercial Gazette*, 20,848½ tons.

There is considerable discrepancy in these reports, the *Gazette* being probably nearest correct.

The following list, compiled from every available source, gives the names of mines which are known to have sent ore to San Francisco, and the quantity purchased from each. There are several firms in that city which purchase or make advances on copper ores. Among those most extensively engaged in this business are Meader, Lalor & Co., Martin & Greenman, Mr. Price, Conroy & O'Conner. None of these parties appear disposed to give information relating to their business, under the impression, perhaps, that such information might in some way or other injure them, and it was not through them directly that this list was made out:

List of mines that have shipped ore.

Name of mine.	Where located.	Quantity shipped.
		<i>Tons.</i>
Union	Copperopolis, Calaveras county	56,542
Keystone	do. do.	5,719
Copper Hill	Near Campo Seco, Calaveras county	1,500
Calaveras	Copperopolis, Calaveras county	100
Campo Seco	Campo Seco, Calaveras county	1,300
Lancha Plana	Lancha Plana, Calaveras county	250
Napoleon	Gopher hills, Calaveras county	4,000
Newton	Near Jackson, Amador county	3,000
Cosumnes	do. do.	1,500
Table Mountain	Calaveras county	250
Birdseye	Mariposa county	25
	<i>Regulus.</i>	
Buchanan	Mariposa county	200
Superior	Mt. Diabolo, Contra Costa county	12
Keokuk	do. do.	10
Alta	Del Norte county	100
Osos	San Luis Obispo county	100
Arroyo Seco	Los Angeles county	15
La Solidar	do. do.	50
Copper Creek Company .....	.....	26
Trinity Company	Trinity county	20
Pueblo Company .....	.....	25
La Victoire	Mariposa county	2,000
Del Fino	Lower California, (belongs to Capt. Winder, U. S. A.)	20
Philadelphia	Arizona	100
Mountaineer	Arizona, (belongs to Captain Winder, U. S. A.)	75
Grand Central	do. do. do.	100
Planet	do. do. do.	700
Mineral Hill	do. do. do.	500

A total of 78,239 tons, not including any shipments from the Queen of Bronze, or any of the mines in Oregon or Lower California, or any of the many small lots that were shipped as experiments by the mines worked in all parts of California during the excitement about copper that prevailed during the years 1860, 1861, 1862, and 1863. It is quite within limits to estimate the ores received from all unnamed sources since 1860 at 1,761 tons. This, added to the quantities given in the list above, makes a total of 80,000 tons received at San Francisco and exported since the discovery of the mines at Copperopolis.

The following table, giving the exports of copper ores from San Francisco from January, 1860, to October, 1866, compiled from the records at the custom-house and the shipping lists, shows a difference of upwards of 22,000 tons when compared with the list above. This discrepancy can only be explained on the grounds above stated. The books of the principal mines given in this list show that the quantities set opposite their respective names have been actually shipped from them. The ores shipped from the leading mines is calculated according to English weight, 2,376 pounds to the ton. Some of the smaller companies may have estimated their ore by the United States weight, or only 2,000 pounds to the ton; but this would not account for so large a discrepancy.

Exports of copper ores from San Francisco from January, 1862, to October, 1866.

Year.	To New York.	To Boston.	To Swansea.	Total for year.
	<i>Tons.</i>	<i>Tons.</i>	<i>Tons.</i>	<i>Tons.</i>
1862.....	86	3,574 $\frac{1}{2}$ $\frac{6}{10}$	-----	3,660 $\frac{1}{2}$ $\frac{6}{10}$
1863.....	1,337	4,208 $\frac{1}{2}$ $\frac{6}{10}$	7 $\frac{1}{2}$ $\frac{5}{10}$	5,553 $\frac{1}{2}$ $\frac{6}{10}$
1864.....	4,905 $\frac{1}{2}$ $\frac{6}{10}$	5,064	264 $\frac{7}{10}$	10,234 $\frac{3}{10}$
1865.....	4,146 $\frac{3}{10}$	9,050	2,591 $\frac{1}{2}$ $\frac{6}{10}$	17,787 $\frac{1}{2}$ $\frac{9}{10}$
1866.....	7,676 $\frac{1}{2}$ $\frac{6}{10}$	3,415 $\frac{5}{10}$	10,384 $\frac{1}{2}$ $\frac{6}{10}$	21,476 $\frac{1}{2}$ $\frac{6}{10}$
Totals	20,151 $\frac{9}{10}$	25,312 $\frac{1}{2}$ $\frac{6}{10}$	13,248 $\frac{1}{2}$ $\frac{3}{10}$	58,712 $\frac{1}{2}$ $\frac{8}{10}$

The above table includes concentrated ores and regulus, when shipped in bags or barrels, but not metallic copper in pigs or bars, of which there was shipped about 25 tons in 1865 and 3,787 bars, of unknown weight, in 1866. In this quantity is included 120 tons from the smelting works at Buchanan Hollow, Mariposa county, shipped by Coffee & Risdon, of San Francisco. As this metal averages 80 per cent., one ton of it is equal to five tons of 16 per cent. ore. The export of this metal is consequently equal to 1,725 tons of such ore, making a total, when added to quantity in the first table, of 79,964 tons—in round numbers, say 80,000 tons; in addition to which there are upwards of 2,000 tons of ores at Stockton and San Francisco ready for shipment, awaiting vessels to carry it away, and nearly 20,000 tons are ready for shipment at the various mines, where it is retained in consequence of the very low price of such ores in this market at present; the whole showing that upwards of 100,000 tons of copper ore have been taken out of the mines of California since their discovery in 1860. Estimating this ore at an average value of \$50 per ton, which is very much below its actual value, the products of these copper mines since their discovery have added \$5,000,000 to the material wealth of the country, and opened a wide field for the employment of the enterprise, capital, and labor of thousands of its citizens.

A comparison of the product of the copper mines of the Pacific coast with those in other countries may be instructive in this place. Sir Henry De La Beché, the head of the department of mines in England, stated in a lecture given at the great exhibition in London, in 1861, that the average of all the ores of copper produced in Cornwall and Devonshire did not exceed 8 per cent. when dressed, and that the supply was constantly becoming less, and more costly to obtain as the working in the mines became deeper. These two counties are the chief sources of copper in all Europe. Here, on this coast, there are absolutely inexhaustible sources of ores ranging from 10 per cent. to 12 per cent., which may be obtained within a couple of hundred feet of the surface of the ground.

In the parliamentary returns published by order of the British government, it appears that in the year 1861 the gross yield of copper ores in Great Britain, including England, Ireland, and Wales, amounted to 231,487 tons of the value of \$6,800,000, or a little over \$29 per ton. On this coast, under the present system, ore of that value would not pay to take it out of the ground. As has already been explained it costs between \$40 and \$50 per ton to place the ores obtained on this coast in a market. The rates for freight to New York and Liverpool are more than double as high as they were two years ago, in consequence of the great demand for first class vessels to carry grain to those places.

Concluding remarks.—None of the metallic copper made on this coast is suitable for castings or for rolling into sheets, owing to defects in the processes for refining it. It is too brittle for rolling, in consequence of containing traces of sulphur. It is too hard for casting, turning, and polishing, and too liable to tarnish and turn nearly black in color, in consequence of containing more or less iron in alloy.

The present depression in the copper mining interests on the Pacific coast has been much increased by the excessive cost of freight to New York and Swansea, which, falling at a time when the ores are of less value than they have been for the past fifteen or twenty years, causes it to be unprofitable to ship those that heretofore have formed the great bulk of the exports. The price of freight at this time is nearly double what it was in 1861 and 1862. To illustrate this fact, it may be stated that the ship *Haze*, in 1861, was chartered to carry a cargo to New York for \$5,000 in gold. Within the past few weeks the same vessel has been chartered for the same destination for \$16,660 in gold, or \$25,000 in currency. In 1861 freight to Liverpool was offering at \$11 per ton; at present it is not procurable at less than \$17 per ton.

It will be readily understood that an article, the exports of which, though amounting to two millions of dollars annually, the profits of which are limited to such a slight margin, as already explained is the case with copper ores on this coast, must cease to be a source of revenue to the government, or of employment and profit to the people, when the cost of its production and export exceeds the value of the product. This is a question deserving the most serious consideration.

The products of the copper mines on the Pacific coast might be greatly increased if the legislation of Congress were so framed as to make them profitable to procure. This would increase the taxable property of the country, while the products of the mines, now far below their capacity, would add materially to its absolute wealth; for if we do produce our own copper, it must be purchased from other nations, for money or produce, as it is indispensable in the arts and manufactures.

Under our form of government, with such an extent of territory as we possess, and such an intelligent and enterprising people as inhabit our mineral regions, it should be a paramount object so to regulate the scale of taxes and duties on the products of any branch of national industry as to encourage the labor engaged in its development. A sound policy would dictate that so great an interest as copper mining is destined to become in the United States should be encouraged by every possible means in its infancy, and until the skill and experience of those interested in its development shall enable them to compete with a reasonable hope of success with the copper miners and smelters of other countries in which the business has been conducted for centuries. This they cannot do at present, nor ever will be able to do, unless they are assisted for a few years by favorable legislation. The duties and taxes, direct and indirect, on copper, under the present system, amount to \$4 63 on each 100 lbs. of American-made metal, while that imported from other countries only pays \$2 50 on each 100 lbs. It is this invidious distinction that is crippling the energies of those interested in developing the copper resources of the Pacific coast. A reversal of this state of affairs, the levying of a duty of about \$2 50 on each 100 lbs. of foreign copper, over and above what is levied on our home-produced copper—a duty that would inflict no injury on any American interest—would immediately revive the now languishing copper interests of the whole country.

Measured by the facts and figures contained in this report, it requires no stretch of the imagination to comprehend the great national importance of the copper resources of the Pacific coast; already, within five years of their discovery, exporting sufficient ores of unusual richness to produce 10,000 tons of metal annually—a quantity nearly equal to one-half of the supply of the whole world twenty-five years ago, and five times as large as the produce of the whole United States only ten years ago! It requires but experience and the advantages it gives, and a slight protection on the part of the general government, to make the Pacific coast occupy the same prominence as a copper-producing country that it now occupies as the producer of gold and silver.

SECTION 6.

QUICKSILVER MINES OF CALIFORNIA.

1. New Almaden mines.—2. Products and exports.

1.—NEW ALMADEN MINES.

The ore of quicksilver.—Cinnabar is the principal and only valuable ore of the mercury of commerce, which is prepared from it by sublimation.

It is a sulphide (sulphuret) of mercury, composed, when pure, of quicksilver 86.2, sulphur 13.8, in which case it is a natural vermilion, and identical with the vermilion of commerce; but it is sometimes rendered impure by an admixture of clay, bitumen, oxide of iron, &c. Cinnabar is of a cochineal red color, often inclining to brownish red and lead gray, with an adamantine lustre, approaching to metallic in dark varieties, and to dull in friable ones. It varies from subtransparent to opaque, has a scarlet streak, and breaks with a subconchoidal uneven fraction. $H = 2$ to 2.5, specific gravity = 8.99. In a matrass it entirely sublimes, and with soda yields mercury with the evolution of sulphurous fumes. When crystallized it belongs to the rhombohedral system.

Cinnabar occurs in beds in slate rocks. The chief European beds are at Almaden, near Cordova, in Spain, and at Idria, in Upper Carinthia, where it usually occurs in a massive form, and is worked on a thick vein belonging to the Alpine carboniferous strata. It also occurs in China, Japan, Pluanca Vilica, in South Peru, and at New Almaden, in California, in a mountain east of San José, between the bay of Francisco and Monterey, where it is very abundant and easy of access.—*Ure's Dictionary*.

Classes of cinnabar ores.—Gruesa is the best quality or first class, in pieces eight to twelve inches or more in diameter; mostly pure ore of cinnabar, with little or no admixture of refuse rock.

Granza is the second quality, in pieces of three to eight inches, generally containing a considerable proportion of rock. It is either taken from the mine in such pieces or is broken off from larger pieces of rock in the yard.

Tierras—earth or dirt—is the lowest quality, and is not taken into account in the *ores* produced at the mine; neither are the miners paid for it. It is made into bricks and sun-dried previous to being reduced in the furnaces. Each adobe or brick weighs about twelve and a half pounds.

The “carga” or load of ore is considered to be three hundred pounds.

Extracts of a report by Professor B. Silliman, jr., from the American Journal of Science and Arts for September, 1864.

The New Almaden quicksilver mines are situated on a range of hills subordinate to the main Coast range, the highest point of which at the place is twelve to fifteen hundred feet above the valley of San José. Southwest of the range which contains the quicksilver mines, the Coast range attains a considerable elevation, Mount Bache, its highest point, being over thirty-eight hundred feet in height.

New Almaden is approached by the railroad running from San Francisco to San José, a distance of forty-five miles. In the course of it there is a rise of one hundred feet, San José being of this elevation above the ocean. From San José to New Almaden the distance is thirteen miles, with a gradual rise of one hundred and fifty or perhaps two hundred feet.

The rocks forming the subordinate range, in which the quicksilver occurs, are chiefly magnesian schists, sometimes calcareous and rarely argillaceous. As a group they may be distinguished as steatitic, often passing into well-characterized serpentine. Their geological age is not very definitely ascertained, but

they are believed by the officers of the State geological survey to be not older than cretaceous. But few fragments of fossils, and these very obscure, have yet been found in these metamorphic rocks. At a point just above the *dumps*, behind the reduction works at the hacienda (or village,) there is an exposure, in which may be clearly seen in projecting lines the waving edges of contorted beds of steatite and serpentine, interspersed with ochrey or ferruginous layers, more easily decomposed; and the partial removal of the latter has left the steatitic beds very prominent.

The mine is open at various points upon this subordinate range over a distance of four or five miles, in a northeast direction. The principal and the earliest workings of the mine were in a right line, but little more than a mile distant from the hacienda. The workings are approached, however, by a well-graded wagon road, skirting the edges of the hills, which is two and three eighths miles in length.

It appears, partly from tradition, and partly from the memory of persons now living, that the existence of cinnabar upon the hill was known for a long time prior to the discovery that it possessed any economic value. In fact, upon the very loftiest summit of this subordinate range, cinnabar came to the surface, and could be obtained by a slight excavation or even by breaking the rocks lying upon the surface. In looking about for physical evidences such as would aid the eyes of an experienced observer in detecting here the probable presence of valuable metallic deposits, one observes on the summit of the hill, at various points along the line of its axis for two or three miles, and also beyond, toward the place called Bull Run, occasional loose boulders of drusy quartz, with more or less well-characterized geodes and combs; accompanying which is an ochraceous or ferruginous deposit, such as frequently forms the outcrop of metallic veins. There is, however, no such thing as a well-characterized vein, the quartz and its associated metals occurring rather in isolated masses or bunches segregated out of the general mass of the metamorphic rocks, and connected with each other, if at all, somewhat obscurely by thread veins of the same mineral.

The main entrance to the mine at present is by a level about eight hundred feet long, and large enough to accommodate a full-sized railroad and cars. This level enters the hill about three hundred feet from its summit, and is driven into a large chamber, formed by the removal of a great mass of cinnabar, leaving ample space for the hoisting and ventilating apparatus employed in working the mine.

At this point a vertical shaft descends to an additional depth of nearly three hundred feet, over which is placed a steam "whim" with friction gearing and wire rope, worked by a steam-engine, and by means of which all the ore from the various workings of the mine is conveniently discharged from the cars, which convey it out of the level to the dressing floors. * * * *

In order to reach the lower workings of the mine, the observer may employ the bucket as a means of descent, or he may, in a more satisfactory manner, descend by a series of ladders and step, not in the shaft, but placed in various large and irregular openings, dipping for the most part in the direction of the magnetic north, and at an angle of thirty to thirty-five degrees. These cavities have been produced by the miner in extracting the metal, and are often of vast proportions; one of them measures one hundred and fifty feet in length, seventy feet in breadth, and forty feet in height; others are of smaller dimensions; and they communicate with each other sometimes by narrow passages, and at others by arched galleries cut through the unproductive serpentine.

Some portions of the mine are heavily timbered to sustain the roof from crushing, while in other places arches or columns are left in the rock for the same purpose.

The principal minerals associated with the cinnabar are quartz and calcareous

spar, which usually occur together in sheets or strings, and in a majority of cases penetrate or subdivide the masses of cinnabar. Sometimes narrow threads of these minerals, accompanied by a minute coloration of cinnabar, serve as the only guide to the miner in re-discovering the metal when it has been lost in a former working.

Veins or plates of white massive magnesian rock and sheets of yellow ochre also accompany the metal. Iron pyrites is rarely found, and no mispickel was detected in any portion of the mine; running mercury is also rarely, almost never, seen.

The cinnabar occurs chiefly in two forms, a massive and a sub-crystalline. The first is fine granular, or pulverulent, soft, and easily reduced to the condition of vermilion; the other is hard, more distinctly crystalline, compact and difficult to break; but in neither of these forms does it show any tendency to develop well-formed crystals. It is occasionally seen veining the substance of greenish white or brown compact steatite or serpentine.

The ores are extracted by contract, the miners receiving a price dependent upon the greater or less facility with which the ore can be broken. By far the larger portion of the work-people in the mines are Mexicans, who are found to be more adventurous than Cornishmen, and willing oftentimes to undertake jobs which the latter have abandoned. The price paid for the harder ores in the poorer portions of the mine is from three to five dollars per carga of three hundred pounds. This weight is obtained after the ore is brought to the surface and freed by hand breaking from the superfluous or unproductive rock; by this arrangement, the company are secured from paying for anything but productive mineral. All the small stuff and dirt formed by the working of the "labors," are also sent to the surface to form the adobes used in charging the furnaces.

It has often happened in the history of this mine, during the past fifteen years, that the mine for a time has appeared to be completely exhausted of ore. Such a condition of things has, however, always proved to be but temporary, and may always be avoided by well-directed and energetic exploration. Upon projecting, by a careful survey, irregular and apparently disconnected chambers of the mine in its former workings in a section, there is easily seen to be a general conformity in the line of direction and mode of occurrence of the productive ore-masses. These are found to dip in a direction toward the north, in a plain parallel, for the most part, to the pitch of the hill, but at a somewhat higher angle. An intelligent comprehension of this general mode of structure has always served hitherto in guiding the mining superintendent in the discovery of new deposits of ore.

Since the settlement of the famous lawsuit, which has so long held this company in a condition of doubt, the new parties, into whose hands the property has now passed, have commenced a series of energetic and well-directed explorations at various points upon the hill, with a view to the discovery of additional deposits of ore. At one of these new openings, distant at least five hundred feet from the limit of the old workings, and not more than two hundred feet from the summit of the hill, a deposit of the richest description of the softer kind of cinnabar has been discovered, which, so far as hitherto explored, has a linear extent of at least seventy or eighty feet, and in point of richness has never been surpassed by any similar discovery in the past history of the mine. A charge of one hundred and one thousand pounds, of which seventy thousand were composed of this rich ore, thirty-one thousand pounds of "granza" or ordinary ore, and forty-eight thousand pounds of adobes, worth four per cent., making a total charge of one hundred and five thousand eight hundred pounds, yielded, on the day of our visit, four hundred and sixty flasks of mercury at seventy-six and a half pounds to the flask. This yield is almost without parallel in the history of the mine. The only preparation which the ores un-

dergo, preparatory to reduction, consists of hand-breaking or "cobbing" for the removal of the unproductive rock.

The small ores and dirt hoisted from the mine are made into "adobes" or sun-dried bricks, sufficient clay for the purpose being associated with the ore. The object of these "adobes" is to build up the mouths of the furnaces to sustain the load of richer ores. No flux is employed, there being sufficient lime associated with the ores to aid the decomposition of the sulphurets.

The furnaces are built entirely of brick, in dimensions capable of holding from sixty thousand to one hundred and ten thousand pounds, according to the character of the ores employed. The chambers are fired from a lateral furnace, fed with wood, and separated from the ore by a wall pierced with numerous openings by the omission of bricks for that purpose.

Connected with the furnace is a series of lofty and capacious chambers, also of masonry, through which the whole product of combustion is compelled to pass alternately above and below from chamber to chamber, until all the available mercury is condensed. The draught from these furnaces is carried by inclined stacks up to the top of a lofty hill several hundred feet distant; and here the sulphurous acid and other effete products of the furnace are discharged. Formerly no precautions were taken to prevent the escape of mercury through the foundations of the furnace to the earth beneath; now the furnaces stand upon double arches of brickwork, and plates of iron are built into the foundations, so as to cut off entirely all descending particles of the metal and turn them inward. To be convinced of the importance of this precaution, it is sufficient to watch the operation of the furnace for a few moments, when an intermittent stream may be seen to flow into a reservoir provided for it, and which by the former process was completely lost in the earth.

On taking up the foundations of some of the old furnaces, within the last two years, the metal was found to have penetrated, or rather permeated, completely through the foundation and clay of the substructure down to the bed-rock beneath, a depth of not less than twenty-five or thirty feet. Over two thousand flasks of mercury were thus recovered in a single year from the foundations of the two furnaces. This loss is entirely avoided by the improved construction which has been adopted.

The whole process of reduction is extremely simple, the time occupied from one charge to another being usually about seven days. The metal begins to run in from four to six hours after the fires are lighted, and in about sixty hours the process is completed. The metal is conducted through various condensing chambers, by means of pipes of iron, to a "crane-neck," which discharges into capacious kettles. It undergoes no further preparation for market, being quite clean from all dross.

Property of the company.—The landed estate of the Quicksilver Mining Company consists, therefore, of seven thousand eight hundred acres, or a fraction over twelve square miles, of which more than one-third is mineral ground, traversed by veins of cinnabar which have been traced for miles and tested in more than a dozen places, and of which the celebrated New Almaden mine, which has produced, prior to its possession by this company, more than fifty thousand tons of ore, yielding about twenty-four million pounds of quicksilver, is but a single development.

The permanent improvements upon the property of the company consist of—

Dwelling-houses, workshops, and stores at the hacienda.....	61
Dwelling-houses, workshops, and stores at New Almaden mine.....	276
Dwelling-houses, workshops, and stores at Enriqueta mine.....	55
Dwelling-houses on the farms.....	13

Total..... 405

The buildings cost over \$160,000.

There are six furnaces at the Hacienda, costing about \$100,000.

The railway from the mouth of the New Almaden mine to the furnaces, one and one-quarter mile in length, was completed in December last, and cost about \$12,000.

The population located upon the lands of the company, and nearly all in its employ, are as follows :

At the Hacienda	286
At New Almaden village.....	1,396
At Enriqueta village.....	176
On the farms.....	85
Total.....	1,943

The inventory of personal property at the several mines, exclusive of ores on hand, amounts to the sum of \$113,876.

2.—PRODUCTS AND EXPORTS.

Produce of quicksilver at New Almaden, from July 1, 1850, to August 31, 1863.

Dates.	No. of months.	Ore consumed.	Percentage.	Furnaces.	Washings.	Total.
		<i>Pounds.</i>		<i>Flasks.</i>	<i>Flasks.</i>	<i>Flasks.</i>
July, 1850, to June, 1851.	12	4,970,717	35.89	23,875	.....	23,875
July, 1851, to June, 1852.	12	4,643,290	32.17	19,921	.....	19,921
July, 1852, to June, 1853.	12	4,839,520	27.94	18,035	.....	19,035
July, 1853, to June, 1854.	12	7,448,000	26.49	26,325	.....	26,325
July, 1854, to June, 1855.	12	9,109,300	26.23	31,860	.....	31,860
July, 1855, to June, 1856.	12	10,355,200	20.34	28,183	.....	28,183
July, 1856, to June, 1857.	12	10,299,900	18.93	26,002	.....	26,002
July, 1857, to June, 1858.	12	10,997,170	20.05	29,347	.....	29,347
July, 1858, to Oct., 1858.	4	3,873,085	20.05	10,588	.....	10,588
Nov., 1858, to Jan., 1861.	.....	Mine closed		by injunction.....		
Feb., 1861, to Jan., 1862.	12	13,323,200	18.21	32,402	2,363	34,765
Feb., 1862, to Jan., 1863.	12	15,281,400	19.27	39,262	1,129	40,391
Feb., 1863, to Aug., 1863.	7	7,172,660	18.11	17,316	2,248	19,564
Total	10 yrs. and 11 mos.	102,313,442	.....	302,916	5,740	308,756

General average from furnaces 22.20 per cent. Produce of quicksilver 23,519,834 pounds.

NOTE.—By the terms of the compromise with Messrs. Barron & Co., in August, 1863, the New Almaden mine was to be held and worked by them for the benefit of this, the Quicksilver Company, during the months of September and October, and the company was to assume the entire control on the 1st of November.

During these two months the product was as follows: September, 2,371 flasks; October, 3,149; total product, 5,520, or 422,280 pounds.

Tabular statement showing the product of all the furnaces from November, 1863, to December, 1864, inclusive.

Months.	Charges.	Total quantity of ore reduced.			Total po'nds of ore of all qualities reduced.	Total quicksilver.	
		Grueso.	Granza.	Tierras.		Flasks.	Pounds.
Nov., 1863..	13	16,200	628,100	347,200	999,500	1,604	120,300
Dec., 1863..	18	38,600	958,400	371,800	1,369,000	2,436	182,700
Jan., 1864..	19	27,000	432,800	302,800	1,462,600	2,381	178,575
Feb., 1864..	16	4,500	1,042,800	166,400	1,213,700	1,979	148,425
Mar., 1864..	20	46,100	1,318,500	172,600	1,607,200	3,443	358,975
April, 1864..	17	259,500	1,012,900	189,400	1,389,800	3,252	243,900
May, 1864..	21	174,700	1,155,300	272,500	1,604,500	3,022	226,650
June, 1864..	25	38,800	1,567,200	312,700	1,918,500	3,377	253,275
July, 1864..	28	160,800	1,838,500	288,100	2,287,400	4,801	360,075
Aug., 1864..	28	161,600	1,806,600	273,600	2,231,800	4,674	350,550
Sept., 1864..	28	115,700	1,841,300	273,200	2,230,700	3,947	296,025
Oct., 1864..	31	133,800	1,828,600	286,400	2,314,300	4,004	300,300
Nov., 1864..	34	45,400	2,115,500	326,200	2,488,100	3,511	263,385
Dec., 1864..	34	93,000	2,018,700	424,000	2,535,700	3,775	283,125
Totals	332	1,314,200	20,326,000	4,005,900	25,646,100	46,216	3,566,200

Total product from furnaces 46,216 flasks.
 Total product from washings..... 720 flasks.

Total 46,936 flasks.

Average per cent. of all ore reduced, tierras deducted, 16.49.

Tabular statement showing the gross product monthly for 1865.

	Flasks.	Pounds.
January	3,768	288,252
February	3,512	268,668
March	3,427	262,165½
April	4,050	309,825
May	4,501	344,326½
June	3,961	303,016½
July	3,671	280,831
August	4,470	341,955
September	4,598	351,747
October	3,010	230,265
November	3,839	293,683
December	4,271	326,731
	47,078	3,604,465½
Product from washings	116	
	47,194	

[From official report of Mr. Bond, the vice-president, for 1865.]

“The quantity of ore mined and reduced was 31,948,400 pounds, or about 16,000 tons, and the general average of all the ore reduced, allowing 3 per cent. for tierras, was 12.43 per cent.

“It will be noticed that while the production of quicksilver during 1865 has been in excess of any previous year, yet it has not increased in proportion to

the increased quantity of ore mined. The average percentage of 1864, as shown by the last year's report, was 16.40 per cent., and for the ten years preceding was 22.20 per cent."

Tabular statement showing the gross product monthly for 1866.

	Flasks.
January.....	3, 950
February.....	3, 703
March.....	3, 043
April.....	1, 000
May.....	2, 900
June.....	2, 700
July.....	3, 173
August.....	3, 180
September.....	3, 190
October.....	3, 190
Total.....	30, 029

Comparative statement of quicksilver exported from California to various countries from 1859 to 1864.

To—	1859.	1860.	1861.	1862.	1863.	1864.
	<i>Flasks.</i>	<i>Flasks.</i>	<i>Flasks.</i>	<i>Flasks.</i>	<i>Flasks.</i>	<i>Flasks.</i>
New York.....	250	400	600	2, 265	95	1, 695
Great Britain.....			2, 500	1, 500	1, 062	1, 609
Mexico.....	103	3, 886	12, 061	14, 778	11, 590	7, 483
China.....	1, 068	2, 725	13, 788	8, 725	8, 889	18, 908
Peru.....	571	750	2, 804	3, 439	3, 376	4, 300
Chili.....	930	1, 040	2, 059	1, 746	500	2, 674
Central America.....			110	40	40	30
Japan.....			50	25		262
Australia.....	325	100	1, 850	800	300	103
Panama.....	133	130	57	424	120	45
Victoria, V. I.....	19	327	116	5	42	21
Total.....	3, 399	9, 448	35, 995	33, 747	26, 014	36, 918

And the exports previously have been—

	<i>Flasks.</i>		<i>Flasks.</i>
In 1858.....	24, 142	In 1855.....	27, 165
In 1857.....	27, 262	In 1854.....	20, 963
In 1856.....	23, 740	In 1853.....	18, 800

Exports to January 1, 1866.

At the commencement of the year 1865, the company had under consignment and on hand 20,396 flasks of quicksilver, in addition to the quantity, 7,396 flasks, consigned through Messrs. Alsop & Co., which was distributed as follows:

Consigned to China.....	7, 000
Consigned to Mexico.....	4, 250
Consigned to Peru.....	1, 000
Consigned to Chili.....	600
Consigned to New York.....	1, 200
Consigned to London.....	1, 600

Consigned to Oregon.....	30
Consigned to Australia.....	100
On hand in Nevada.....	1, 854
On hand in California.....	2, 762
Total flasks.....	20, 396

The product for 1865 has been distributed as follows :

Consigned to China.....	14, 250
Consigned to London.....	10, 400
Consigned to Peru.....	5, 500
Consigned to Chili.....	2, 000
Consigned to New York.....	6, 800
Consigned to Mexico.....	2, 650
Consigned to Australia.....	200
Consigned to Oregon.....	280
On hand in Nevada.....	4, 641
On hand in California.....	473
Total flasks.....	47, 194

Total number of flasks to be accounted for..... 67, 590

The number of flasks sold from these consignments during the year, and accounts therefore closed and settled, were 19,756, as follows :

Sold in China.....	4, 000
Sold in New York.....	4, 500
Sold in Mexico.....	450
Sold in Australia.....	100
Sold in London.....	1, 600
Sold in Peru.....	1, 000
Sold in Nevada.....	6, 495
Sold in California.....	1, 350
Sold in Oregon.....	261
Total flasks.....	19, 756

Flasks remaining on hand January 1, 1866, and to be accounted for.. 47, 834

This quicksilver was distributed as follows :

Consigned to China.....	17, 250
Consigned to Mexico.....	6, 450
Consigned to New York.....	3, 500
Consigned to London.....	10, 400
Consigned to Chili.....	2, 600
Consigned to Peru.....	5, 500
Consigned to Australia.....	200
Consigned to Oregon.....	49
On hand in California.....	1, 885
Total flasks.....	47, 834

The quantity consigned through Messrs. Alsop & Co., on hand January 1, 1865, 7,396 flasks, has been sold, making the total sales for account of the company, during the year 1865, 27,152 flasks.

The foregoing statement includes only the shipments and sales of quicksilver which have been closed and finally settled. In addition to the above, the company have received advices of the sales in China and London of about 10,000 flasks.

Products of other quicksilver mines in California during the year 1866.

Guadalupe, average flasks per month.....	150
New Idria, average flasks per month.....	500
Knox & Redington, average flasks per month.....	300

SECTION 7.

BORAX, SULPHUR, TIN, AND COAL.

1. Principal borax countries.—2. Manufactured borax.—3. Discovery of borax in California.—4. Product of borax in California.—5. Process of working.—6. Deposits of sulphur.—7. Tin.—8. Coal.—9. Iron.

1.—PRINCIPAL PLACES WHERE BORAX IS FOUND.

Prior to the discovery of borax in California, the principal localities in which the borates were found were at Halberstadt, in Transylvania, at Viquentizoa and Escapa, in Peru, in the mineral springs of Chambly, St. Ours, &c., Canada West, and in certain salt lakes of India, Thibet, and other parts of Asia, whence the greater part of the borax of commerce was formerly obtained.

* “The salt separated from these waters by evaporation, either natural or assisted by artificial contrivances, is sent to Europe as crude borax or tincal, sometimes in large regular crystals, but more frequently as a white or yellowish white mass, which is very impure, containing lime, magnesia, and alumina, and likewise covered over with a greasy substance, (said to be added to diminish the risk of breakage during transport.) According to analysis by Richardson and Bronell, crude Indian borax contains :

Boric acid, (anhydrous).....	22.88	40.24	24.41
Soda.....	12.59	11.11	11.71
Chloride of sodium.....	0.92	0.11	0.21
Sulphate of sodium.....	0.13	0.49	2.84
Sulphate of calcium.....	1.36	68	1.36
Insoluble matter.....	17.62	1.37	20.02
Water.....	44.50	46.00	39.45
	<u>100.00</u>	<u>100.00</u>	<u>100.00</u>

2.—MANUFACTURE OF BORAX.

“The purification or refining of this crude Asiatic borax has been carried on from very early times in various seaport towns in Europe, especially at Venice, and more lately at Amsterdam.”

* * * * *

“The greater part of the borax used in the arts is now* prepared in France by treating the native boric acid of Tuscany with carbonate of sodium, according to a method first practiced by Payen and Cartier.” .

3.—DISCOVERY OF BORAX IN CALIFORNIA.

The following extracts from a report by Dr. John A. Veatch, dated June 28, 1857, give a succinct and very interesting history of the discovery of borax in California:

“Since the demonstration of the existence of boracic acid and the borates in California in quantities sufficient for commercial purposes, a history of the discovery and a description of some of the more important localities of these useful products become matters of some interest.

“I believe I was the first to detect the borates in mineral waters in this State, and perhaps, as yet, the only observer of their localities. My attention was first drawn to this subject by noticing crystals of bi-borate of soda in the artificially concentrated water of a mineral spring which I chanced at the time to be examining for other matters. This water was from one of the several springs since known as the Tuscan springs, and which have gained some fame, and very justly, I believe, as medicinal waters. The spot has been described by Dr. Trask under the name of the Lick Springs, and is so designated on Britton and Rey's late map; lying on the north part of Tehama county, eight miles east of Red bluff. The crystals alluded to were observed on the 8th day of January, 1856. Several pounds were subsequently extracted by evaporating the water to a certain degree of concentration and allowing the borax to crystallize. The pioneer specimens of this product were deposited in the museum of the California Academy of Natural Sciences, as an evidence of the existence of a new and important link in the chain of our mineralogical productions, showing that along with the rich productions of the noble and useful metals, we have also the mineral substance so essential to their easy application to the purposes of man.

“The water, holding in solution so valuable a product, was thought worthy of a critical analysis; and consequently at an early period the aid of a chemist of this city was invoked. The reported result, which I placed at the disposition of Dr. Trask, was thought worthy of a place in his geological report of that year, and appears in it. My mind being now alive to the subject, I learned, upon inquiry, of other localities which I supposed might yield the borates. One of these, near the mouth of Pitt river, forty miles north of the Tuscan springs, I had the pleasure of visiting in company with Dr. Wm. O. Ayres, in April, 1856. Specimens there obtained yielded the borate salts; and, from a subsequent examination of the intermediate country, several similar localities were found. The quantity was too small to be of any practical importance, but the prevalence of the salt gave encouragement to further search. A reconnoissance of the “coast range” of mountains, from the neighborhood of Shasta over a length of some thirty miles towards the south, brought to light borates in the numerous small springs abounding in that region, but only in minute quantities. These springs were found almost exclusively in the sandstone, or in the magnesian limestone overlaying it; and the borates seemed to abound in localities bearing indications of volcanic disturbance. Thus a kind of guide was obtained in the prosecution of further explorations. I began to entertain hopes of finding streams with stronger impregnations, or accumulations, of the borates in salt lagoons said to exist in Colusi county, where the sandstone formation was largely developed, the adjacent foot-hills presenting volcanic features. Hunters told tales of mineral springs of sulphurous and bitter waters; of lakes of soda, and alkaline plains, white with efflorescent matters, in that region. Not being in a

* Prior to the discovery of borax in California.

situation immediately to visit those inviting localities, I had, for the time, to content myself with pointing out to the hunters and others occasionally passing through that country such appearances as I wished particularly to be noted. Their reports, together with specimens sometimes furnished, were all corroborative of the correctness of my theory. Colonel Joel Lewis, of Sacramento City, who occasionally visited the coast range on hunting excursions, and to whom I explained the object of my search, and who, although not a scientific man, is an intelligent observer, had the kindness to look, in his peregrinations, for certain indications. He subsequently informed me by letter that he had met with an Irishman, living in Bear valley, who had found a 'lake of borax,' as it was pronounced by an Englishman who lived with the Irishman, and who had been at one time employed in a borax manufactory in England, and therefore assumed to speak knowingly on the subject. He also informed me in the same letter that a Major Vanbibber, of Antelope valley, had discovered large quantities of nitre in the same neighborhood. These glowing reports led me to hasten the excursion I had so long contemplated. In a personal interview with the colonel he told me of an enormous mass, of a white, pulverulent substance, he had himself observed near the margin of Clear lake, of the nature of which he was ignorant. Mr. Charles Fairfax, who was with the colonel at the time, stated to me that a small rivulet running at the base of the white hillock was an intensely impregnated mineral water, totally undrinkable, as he had accidentally discovered by attempting to slake his thirst with it. From the meagre information gathered from these gentlemen, I was led to hope the 'hill of white powder,' as they termed it, might prove to be borate of lime. I determined to satisfy myself by a personal examination at once, and I finally induced Colonel Lewis to act as my guide by furnishing him with a horse and paying expenses. It was some time in the early part of September of last year that he and I left Sacramento for the localities that had so much excited my hopes. At the town of Colusa, which we reached by steamer, horses were obtained, and we proceeded in a westerly direction across the Sacramento valley to the foot-hills of the coast mountains, a distance of about twenty miles. That portion of the plains skirting the hills gave unmistakable evidence of a heavy charge of mineral salts, and the exceedingly contorted and interrupted state of the hill strata enabled me at once to predict the presence of the beloved borates, which chemical trial on some efflorescent matter taken from a ravine proved to be the case in a slight degree. At this point we entered 'Fresh-water cañon,' which cuts the hills and forms a passway into Antelope and Bear valleys. Here I received information from a settler of a hot sulphur spring a few miles south of Bear valley, on one of the trails leading to Clear lake. This spring we succeeded in finding on the following day. It was with no small pleasure that I observed the outcropping magnesian limestone in the hills surrounding the valley of the springs. The strong smell of sulphureted hydrogen, and the appearance of a whitish efflorescence on the rocks, manifested, even at a distance, almost the certainty of finding the mineral I sought. The indications were not deceptive. The efflorescence proved to be boracic acid, in part, while the hot, sulphurous water held borate of soda in solution, together with chlorides and sulphates. There are three hot springs at this place, and several cold ones, all alike strongly impregnated with common salt and borax. The quantity of water yielded in the aggregate is about one hundred gallons per minute—the hot and cold springs yielding about equal quantities. The temperature of the hot water is 200° Fahrenheit, and that of the cold 60° Fahrenheit. The same phenomenon occurs here that is observed at the Tuscan springs, viz., free boracic acid in the efflorescence on the margin of the springs, while the water itself shows a decided alkaline reaction. A careful examination proves that the efflorescent matters come directly from the waters of the spring—taken up by capillary attraction of the soil and evaporated by the air. The singular fact may be accounted for by the decomposition

of the borates by the sulphuric acid generated by atmospheric action on the sulphur in which the soil abounds; or the same decomposition may be produced by the hydrosulphuric acid passing up in gaseous form from the laboratory nature has established beneath. The same action, doubtless, takes place in the water, but the boracic acid set free is at once taken up by the excess of alkaline matter, while, in the efflorescence, no fresh supply of alkali offering, the acid remains in its free state when once displaced by more powerful acids.

"These springs seem to be identical in the character of their waters with the Tuscan springs, and therefore doubtless possess the same extraordinary medicinal virtues. As a source of borax these springs could be made available, but as the owners of this locality possess others of superior richness, it is not likely to be ever called to yield its mineral treasure. The situation is a pleasant and romantic one. The distance from the town of Colusi is thirty-five miles, over mostly a smooth and pleasant road. From Clear lake it is eighteen miles, and over rather a rough country. The Indian name of the place is Co-no-to-tok, a generic word having reference to the white appearance of the ground. Mr. Archibald Peachy located a three-hundred-and-twenty-acre school land warrant on this place in behalf of the borax company. After satisfying myself with the examination of this interesting spot, noting nothing of interest save a 'soda spring,' the water being impregnated to a remarkable degree with carbonic acid gas, about eight miles from the lake. A chemical test also detected boracic acid in small quantity. The following day we reached the 'Hill of White Powder,' the goal of our hopes, on the margin of Clear lake. This 'White Powder Hill,' the goal of our hopes, proved an illustration of how little the recollections of mere casual observers are to be depended upon. The hill, in place of consisting of materials in a state of disintegration, so as to admit of being 'shoveled up,' as my friend supposed, proved to be a concrete volcanic mass, bleached white by sulphurous fumes, and looking, at a little distance, like a huge mass of slaked lime, which the inattentive observer might readily suppose to be a 'hill of white powder.' The hope of a treasure in the form of borate of lime vanished forever.

"The road had been rather toilsome, the weather exceedingly hot, and my guide not very well; and as he had gone the full length of the contemplated journey, and felt somewhat disgusted at the result so far, and had nothing more to draw his attention in this direction, he proposed to return at once by the way of the Irishman's 'borax lake' and Vanbibber's nitre placer. This was agreed upon; so, collecting a few specimens of efflorescent matters from the ground, and filling a bottle with the water in the ravine, I closed the examination of the 'Hill of White Powder.' The ravine I afterwards called the "boracic acid ravine," and the white hill is now called 'Sulphur Bank.' Of these I shall have occasion to speak hereafter.

"Before leaving the neighborhood I determined, however, to know something more of its surroundings. I learned, upon inquiry of Mr. Hawkins, who lives near the spot, that a place not far off, known by the name of 'Alkali lake,' presented a rather peculiar appearance. Hawkins consented to act as my guide. After travelling a short distance, and clambering to the narrow edge of an almost precipitous mountain ridge, we looked down the opposite slope, equally steep, on a small muddy lake that sent up, even to our elevated position, no pleasant perfumes. Thus, on one of the hottest days September ever produced, without a breath of air to dilute the exquisite scent exhaled from two hundred acres of fragrant mud, of an untold depth, I slid down the mountain side into 'Alkali lake,' waded knee-deep into its soapy margin, and filled a bottle with the most diabolical watery compound this side the Dead Sea. Gathering a few specimens of the matter encrusting the shore, I hastened to escape from a spot very far from being attractive at the time, but which I have since learned to have no prejudice against. Of this place I shall

have occasion to say more. On my return to Hawkins's, who had the kindness to entertain me with the genuine hospitality of a frontiersman, I looked to my last specimens and found encouraging results in the partial chemical examination I was able to give them. I now again placed myself under the guidance of my friend Lewis, and we started for the Irishman's house in Bear valley. We found the owner of the 'borax lake,' but the borax had evaporated with the water and left nothing but common salt, tinged of a beautiful bluish red color, which I suppose had given the notion that it was something out of the usual way. It was the only specimen of salt I remember to have seen in the coast range that contained no boracic acid in any form; it was guiltless of even a trace. The next step was to examine the nitre region. Major Vanbibber, the reputed discoverer, being a grandson of Daniel Boone, ought to possess, one would suppose, an hereditary knowledge of one of the essential constituents of gunpowder; and as Colonel Lewis had shown me a specimen of very pure nitre, which he said the Major had given him, I rather expected to find a few more left. This, however, was rather worse than the 'borax lake' disappointment; the major had actually forgotten where the lake was, and whether there were any more specimens than those he gave Lewis. The major, I believe, must really have forgotten, for upon subsequent examination the specimen proved to be refined saltpetre that undoubtedly came from some shop or drug store.

"There was certainly a mistake about its origin; but I felt amply repaid for a hard day's ride in spending a night under the hospitable roof of a direct descendant of the renowned 'Backwoodsman of Kentucky.' I observed near the major's house a small pond. Some salt crystals I picked up had the peculiar bevelled angles indicating the presence of borax. The quantity was inconsiderable. Thus ended my first expedition to Clear lake. We here set our faces direct for Colusi, as there seemed nothing more to be seen; and as I had engaged the horses we rode at rather a high per diem, I felt anxious to terminate the trip. From Colusi my guide returned to Sacramento and I to Red Bluff; from there I came again to San Francisco, for the purpose of testing my specimens more critically than I was able to do in the country.

"Convinced of the richness of my 'Alkali lake' specimens, it remained to be seen whether the quantity was sufficient to justify the hope of making it available for practical purposes. A further and more strict examination was necessary. I felt, too, the propriety of a thorough exploration betwixt the Bluff and Clear lake, and more thence to the bay of San Francisco, thus rendering continuous the reconnoissance from Pitt river to the last-named point, a distance, in a direct line, of two hundred miles. After a hard struggle for the funds requisite, I returned to Red Bluff; and from thence, in company with my son, commenced a pretty thorough examination of the coast range and the adjoining edge of the Sacramento valley.

"Nothing of much importance presented itself until reaching a saline district, about eighty miles south of Red Bluff. It is one of the branches of Stony creek. Valuable salt springs exist here. The water contains the borates in minute quantities; and one spring was remarkable for the enormous proportion of iodine salts held in solution. In our slow, onward progress borax now and again manifested itself; but as it had grown familiar, I no longer went into ecstasies over a mere trace. I still treated, however, the slightest indications with due deference, and noted their localities.

"In due time I again reached the 'white hill.' The disgust of the first disappointment had worn off, and I felt disposed to re-examine the locality more critically. I now discovered, for the first time, that the 'white hill' was mostly a mass of sulphur, fused by volcanic heat. The external dust, composed of sulphur, mixed with sand and earthy impurities, and formed a concrete covering of a whitish appearance, hiding the nature of the mass beneath. On

breaking the crust, numerous fissures and small cavities, lined with sulphur crystals of great beauty, were brought to light. Through the fissures, which seemed to communicate with the depth below, hot aqueous vapors and sulphurous fumes constantly escape. The fused mass, covering many acres and exhibiting a bluff front some forty feet high, is exceedingly compact and ponderous in structure; of various shades, from yellow to almost black. It seems to be very pure sulphur. The quantity is enormous, and at no distant day may be made available.

"From the 'sulphur bank' I again turned my attention to the ravine. The water, as I had before ascertained, was strongly impregnated with boracic acid, in a free state. The stream is small, yielding only about three gallons per minute, and is soon lost in the sandy soil, in its progress toward the margin of the lake. From the porous nature of the ground surrounding the spring, and saturated with the same kind of acid water, it is probable a large quantity escapes without making its appearance on the surface. The soil for some yards on either side of the ravine is, to the depth of an inch or two impregnated with boracic acid in summer. Sulphuretted hydrogen escapes in continued bubbles through the water, a feature common to all the borax localities I have yet found; in some places, however, the carburetted takes the place of the sulphuretted hydrogen. The head of this ravine is about three hundred yards from the margin of Clear lake, winding around the base of the 'sulphur bank,' receiving some small springs in its course, which seem to have their origin beneath the sulphur. The flat land bordering the lake, some eight acres in extent, through which the ravine runs, shows a strong impregnation of boracic acid in its soil. The point where the ravine enters the lake is marked by a large quantity of water of a boiling temperature, issuing through the sand, a little within the margin of the lake. This percolation of hot water covers an area of one hundred and fifty by seventy-five feet. This fact I observed on my second visit, but not until the third or fourth visit did I ascertain that the water contained a considerable quantity of borax, along with an access of boracic acid. From a gallon I obtained four hundred and eighty-eight grains of solid matter, consisting of borax, boracic acid, and a small portion of silicious and other earthy impurities. On digging to a slight depth just outside the lake, the hot water burst up and ran off freely. From one of these places a stream issued of sixty gallons per minute. I have estimated the entire quantity at three hundred gallons per minute, and feel very confident of being largely within bounds. The stream seems to come from the direction of the sulphur bank, and it would probably be easy to intercept it before it enters the lake, by digging a little above high-water mark. It may be well to note here, that the difference between high and low water marks in Clear lake is never more than three feet.

"The enormous amount of borax these springs are capable of yielding would equal half the quantity of that article consumed both in England and America. The large quantity of water in which it is dissolved would, of course, involve the necessity of extensive works for evaporation. Graduation, as a cheap and effective method of evaporation, would be exceedingly applicable here, from the continued prevalence of winds throughout the entire year. These winds blowing almost unceasingly from the west, form a peculiar feature of the country about Clear lake.

"There is nothing to hinder the manufacture of many million pounds of borax per annum, at a cost but little beyond that of producing salt by graduation. Fuel for final evaporation could be had in any quantities from the extensive oak forest in the immediate vicinity. With these observations I dismiss this locality, adding, however, that Mr. Joseph G. Baldwin located this with a four hundred and eighty acre school land warrant, for the benefit of a borax company.

"Having wandered from my story of my second visit to the 'sulphur bank,' and blended with it observations made in several subsequent examinations, I

now turn to my second visit to 'Alkali lake, or Lake Káysa, as the Indians call it. I need only say, however, I became fully satisfied of the great value of the locality, the extent of which has only been recently developed. I observed that the lake itself contained but little water, but that wells dug anywhere near its margin immediately filled with the same kind of water; the conclusion, therefore, was, that an almost inexhaustible supply was obtainable. I learned, too, that what seemed to be mud at the margin and shelving off and covering the entire bottom to the depth of some feet, was a peculiar jelly-like substance of a soapy feel and smell. This matter I found to be so rich in borax, that I supposed it might be advantageously used for the extraction of the mineral. Thus satisfied of the value of the lake, I little thought that within a few yards of me lay an additional value in the form of millions of pounds of pure borax crystals, hidden by the jelly-like substance I was then contemplating. This important fact was not observed until some six months afterwards.

"This locality is by far the most important of any I have yet discovered. It is situated, as may be seen by reference to the accompanying map, in the angle formed by the two prongs into which Clear lake is divided at its eastern extremity. The elevated hill land that fills the angle separates into two sharp ridges, each following its division of the lake and leaving a valley between, of a triangular shape, near the apex of which lies Alkali lake. Clear lake is, therefore, on two sides of it, distant to the north about a mile, and to the south about half the distance. The open part of the triangular plain looks to the east, and expands into an extensive valley, from which it is cut off, partially, by a low volcanic ridge running across from one hill to the other, and thus enclosing the triangle.

"This ridge is composed of huge masses of rock resembling pumice-stone, which float like cork in water. A thin stratum of ashy-looking soil, scattered over with obsidian fragments, covers the ridge and affords root to a stunted growth of manzanita shrubs.

"The whole neighborhood bears marks of comparatively recent volcanic action. Indeed, the action has not ceased entirely yet; hot sulphurous fumes issue from several places on the edge of the ridge just named, on the side next Alkali lake.

"The 'lake,' as it is called, is rather a marsh than a lake. In winter it covers some two hundred acres, with about three feet depth of water. In the dry portion of the year it shrinks to some fifty or sixty acres, with a depth of only a few inches. The 'soapy matter' covers the entire extent with a depth of nearly four feet, the upper part, for a foot in depth, being in a state of semi-fluidity, the lower having the consistency of stiff mortar. Beneath this is a rather tenacious blue clay. This water was nearly as highly charged with solid matter as that of the lake in its highest summer concentration; the proportion of borax to other substances being greater. The soapy or gelatinous matter, however, presents the greatest feature of attraction, being filled with the prismatic crystals of pure borax. They vary from a microscopic size up to the weight of several ounces. These crystals are semi-transparent, of a whitish or yellowish color. The form is an oblique rhomboidal prism, with replaced edges and truncated angles. In some cases the edges are bevelled, and in others the unmodified hexahedral prism exists. Beneath the gelatinous matter, and on the surface of the blue clay, and from sixteen to eighteen inches in it, crystals of a similar form, but much larger, are found. They weigh from an ounce, and seem to have been formed under different circumstances from the other crystals. My first impression was that they had been formed in the upper stratum, and, sinking by their own gravity, had found their present position. An examination proves, however, that they were formed where they lie, as particles of the blue clay are found enclosed in their centres, which could not have been the case had the upper crystals been their nuclei, for no blue matter is ever found in them.

"The first inquiry of practical interest relates to the quantity of borax already formed. On this subject I cannot speak with perfect confidence. The quantity is very considerable, but I do not look on the experiments heretofore made to test this matter as conclusive. The area covered by the crystalline deposit is not coextensive with that of the lake, but has been found over a space of about twenty acres in the examination made so far. A very valuable collateral product, iodine, with the compounds of which the water seems to be exceedingly rich, could be made a source of revenue with but little additional expense. With regard to the quantity of iodine I cannot speak positively, not having isolated the product; but from the brilliant reaction with the qualitative tests, there can be no doubt of its being great. Should this article be manufactured largely the sulphuric acid required might be made on the spot from the products of the 'sulphur bank,' one and a half mile distant. With this I leave 'Alkali lake.' I would state that I located this place in my own name for the company.

"There is yet another important borax locality in the same vicinity, resembling much the foregoing in its more prominent features. It consists of a pond of water of about twenty acres. The bottom is covered with the same soap-like substance, but seems to contain no crystals. The water contains less solid matter in solution, but the percentage of borax is greater in proportion to the other substances than in the Alkali lake. The borax separates readily by crystallization, and forms about thirty-three per cent. of the whole matter. Like the foregoing, this pond has no outlet and no visible source of supply; yet it is said never to be dry, although the water is never more than three feet deep. It would perhaps be a profitable source of borax if the millions of pounds the before-described localities are capable of yielding be not enough to supply the demand. It is in the midst of a magnificent grove of pines and oaks. This place was taken by Mr. Archibald Peachy, by the location of a three-hundred-and-twenty-acre school land warrant. The borates are also known to exist in other localities between Clear lake and Napa City. In Siegler valley there is a hot spring, in the waters of which I detected borate of strontia and other borate salts. Near Napa there is a borate spring, and one in Suisan valley, near the marble quarry. None of these places are important. The foregoing are the only borax localities known in the northern part of this State; and I feel confident there are no others in that quarter that can ever compete with the inexhaustible stores of the Alkali lake and the hot springs. I had expected to find something worthy of attention at or in the neighborhood of the geysers, but there was no trace of borates in the hot waters of those springs, nor anywhere totally in the surrounding district. The geological features of the country were so different from those of that where I had theretofore found the borates, that I was able to predict as soon as I saw it that nothing of the kind existed. In a hasty reconnoissance of the great Tulare valley I found traces, but nothing more, of these substances. I have reasons for doubting the existence of any large quantities in that region. That portion of the valley bordering on the Coast range might be worth examining further. It is there, if anywhere, valuable deposits may be looked for.

"There probably are as many as three districts in the lower part of the State presenting the borates. One or more valuable localities may probably be found among them."

4.—PRODUCT OF BORAX IN CALIFORNIA.

Up to this date but one borax company has been formed in California. There was some talk of organizing another company eight or nine months since, the parties interested having discovered on the shores of Owen's lake, in the southern part of the State, a substance resembling the borate of lime of South America.

but an analysis of some specimens and of the waters of the lake showing no trace of borax, the project was abandoned. The California Borax Company is the only company on this coast of which I have any knowledge. This company produces at present about two tons of crude crystals daily. Their process is simple, the entire machinery consisting of six small coffer-dams, six feet square each, open at top and bottom. By means of floats these coffer-dams are sunk in the mud; the water is then bailed out, and the finer crystals extracted by washing, as in placer gold-washing.

5.—PROCESS OF WORKING.

The mud taken from different parts of the lake after the crystals have been extracted in this primitive way give, by analysis, from 11.9 to 18.7 per cent. of prismatic borax, and from virgin mud, partially dried, from which the borax has not been extracted, a result of $31\frac{5}{10}$ crystallized borax is obtained. Several tons of the mud, which had been worked over by the coffer-dams, were treated practically by lixiviation, and gave the following results:

Fine prismatic borax, 15 per cent.; carbonate of soda, $28\frac{1}{2}$ per cent.; common salt, $8\frac{1}{4}$ per cent.; equal to $51\frac{3}{4}$ per cent. Thus yielding in the three salts more than one-half the weight of the whole. The mud partially dried lixiviates easily, and the salts are separated without difficulty.

When the company's works are completed the present mode of production will be discontinued.

The fine crystals are found in the upper layer or stratum of soft mud to the depth of about six feet. They dissolve easily, and are subsequently reformed in large crystals by the process of boiling and crystallization. Below the first stratum is a stiff, blue mud containing the largest crystals, which are picked out by hand, the mud being too stiff to be treated by washing. The quantity obtained by the present process could be increased by increasing the number of coffer-dams. This has not been done for the reason that the company have been engaged during the summer in the erection of expensive works for the treatment of the mud by lixiviation, having found by analysis and by actual experiment that for every pound taken out by the coffer-dam washing process fourteen or fifteen pounds go back into the lake, where it is held in solution or in minute crystals by the liquid mud. It is expected that they will be in successful operation by next spring, when, it is confidently anticipated, the capabilities for production will be practically unlimited.

Borax lake covers two hundred and nineteen acres in the latter part of the summer.* At other seasons it covers quite four hundred acres, of which about three hundred acres may be considered as borax ground. The average depth of the water is about two and a half feet. It is the mud, however, which contains the borax in large quantities. The first eight and a half feet average 15 per cent. borax, 28 per cent. carbonate of soda, and $8\frac{1}{4}$ per cent. common salt. Below the depth of eight and a half feet the smallness of the coffer-dams has prevented their working, hence it is not known how much further down this high average will continue. At the depth of sixty feet the mud brought up by an artesian borer give by analysis but 3.51 per cent. of borax. The intermediate points between eight and a half and sixty feet have not yet been tested. The artesian borer was sent up for the purpose of testing the ground at all depths, but, being worked by inexperienced hands, was broken on the first trial after having reached the depth of sixty feet.

An estimate of average workings shows that twenty cubic feet of mud will yield one ton, so that taking the number of square feet to the acre, the number of feet already tested, and the percentage of borax contained in the mud, an approximate idea may be formed of the value of this deposit.

* Report of United States surveyor general of California.

The company estimate that if the crystallization which is going on all the time were to cease suddenly, they would still have a deposit of at least two thousand tons of borax and eight thousand tons of carbonate of soda to the acre.

Besides the innumerable boracic springs which find an outlet in the bed of the lake, there are other springs on the same property which deposit boracic acid over a large surface of ground. These are not worked for the reason that the lake furnishes the borax itself in such great abundance.

Under the impression that the total consumption of borax in Great Britain was less than 2,500 tons per annum, the company proposed limiting the capacity of their works to about eight tons a day. Recent information, however, satisfies them that the actual consumption in Great Britain is upwards of 11,000 tons. They profess to be able to place borax in London cheaper than it can be manufactured there, which, at the lowest estimate, is five cents per pound. The carbonate of soda will pay the cost of production.

The cost of labor at borax lake is \$31 per month. The laborers employed are Chinese, and they find themselves. Fuel is abundant all over the hillsides. Transportation to the bay of San Francisco is \$15 per ton.

In 1865 this company exported 1,707 cases of borax, valued at \$38,765; and during the first nine months of 1866 they have exported 1,998 cases, valued at \$42,235, and there is a steadily increasing demand for it in the markets of the Atlantic States, as its great purity is becoming known. The imports of this article on this coast have nearly ceased since this California product has been introduced. The superintendent of the mint, all the assayers and manufacturers who use this article in their operations, combine in stating that it is far better than any imported.

There are several lakes among the Sierra Nevadas in the States of California and Nevada, the waters of which contain large quantities of boracic acid in solution. But the only place on the coast, if not in the world, where it is found in a crystalline form in such abundance, is in the coast range.

6.—DEPOSITS OF SULPHUR.

There are sulphur deposits in many parts of the State, but only one thus far has been worked successfully—that belonging to the Borax Company, near Clear lake, which has been in operation about four months. The capacity of the present refinery is from six to ten tons per day, depending on the variable quality of the material worked.

Along the entire base of the sulphur hills flow innumerable boracic acid springs. Near the shores of the lake are boiling springs of borax.

7.—TIN.

[From the Geological Survey of California, vol. I, p. 180, by Prof. J. D. Whitney.]

The Temescal range was, in 1860 and 1861, the scene of a great excitement on the subject of tin, which metal was supposed to occur here in large quantity, hundreds of claims being taken up, covering all the hills and ridges for miles around. Tin ore was undoubtedly found at one locality in these hills and in considerable quantity, as specimens of it have been seen in various collections from San Francisco to New York. The ore, which appears to be a mixture of cassiterite, (tin stone, or oxide of tin,) with more or less earthy or mineral matter, resembling a mixture of hydrous oxides of iron and manganese, is quite unlike in appearance to any previously seen, and its true character would hardly have been recognized by the most practiced mineralogist. Some specimens, assayed in New York and Boston, gave as much as 60 per cent. of the metal.

The locality from which this ore was obtained was the so-called Cajalco

mine, about three miles north of the Temescal ranch-house. Here a shaft had been sunk, in the winter of 1860-'61, to the depth of thirty-six feet; but it was partly filled with water and inaccessible at the time of our visit. A great number of the claims taken up in this vicinity were visited. They seemed nearly all to be located on seams or streaks of dark hornblende running irregularly through the granitic and highly metamorphic rocks. Although there was no appearance of tin about any of these, or any signs of regularity in the "leads," a great many specimens were collected and carefully assayed for tin, without there being a trace of that metal found in any one of them. The excitement has undoubtedly long since died away, and it is not probable that the mass of the ore in the Cajalco mine was very extensive, or more would have been heard of it before this time.* At all events, it is a singular and interesting occurrence of this metal, and we know of no other locality on the Pacific coast north of Mexico where tin ore has been found in place. A single fragment of this substance was given us, apparently under circumstances justifying credence in the discovery, as having been found loose in the soil in the northern part of the State, near Weaversville; but the vein from which it was derived has probably never been discovered, as such a fact could have hardly failed to become widely known.

A belt of limestone crosses through Temescal valley, as was recognized from the occurrence of numerous fragments of this rock on the surface. The bed itself we were unable to discover. It is of a light brown color, semi-crystalline in texture, and contains minute organic bodies, of which the exact nature could not be made out.

8.—COAL.

SIR: In accordance with your request, I herewith submit a report on the coal mines of the west coast of North America, the character of the coal, the present condition of the mining interests, and a table of statistics of the amount consumed in San Francisco during the last six years. The latter item is practically a statement of the actual yield of our domestic mines, inasmuch as San Francisco is almost the only market, the outside consumption barely amounting to ten per cent. of the amount used in this city.

I remain, very respectfully, your obedient servant,

W. M. GABB.

J. ROSS BROWNE, Esq.

Mr. Gabb's Report.

The great coal-bearing formations of the world, those from which the coals of Pennsylvania and the Mississippi valley are obtained, are not represented on the Pacific slope of the North American continent. It is not to be understood, however, that the carboniferous formation is the only one in which valuable deposits of coal have been found. Every one of the great groups of rocks has been found to yield coal in workable quantities in some part of the world. The brown coal of Germany, of nearly the same geological age as that of the Oregon mines, has been worked for many years with profit. So also the cretaceous coal of California has its analogue in New Zealand. In the older formations, the jurassic, triassic, and permian rocks, intermediate in age between the coals of California and those of the great coal-fields of the Atlantic slope, all yield their stores of carbonized plants to the miner, whether under the name of coal or lignite.

The coal deposits of the Pacific may be divided into two distinct groups,

* The cause of the suspension of operations on these mines, as alleged by persons living in Los Angeles county and familiar with the circumstances attending the discovery, is that the claims are in litigation.

geologically. The older, including all of the workable coals of California, as well as that of Washington Territory and Vancouver island, belongs to the cretaceous formation, the analogue of the white chalk of England. This formation consists here of two members, the older of which contains the northern coal deposits; and, although it exists in California, making a large portion of the coast range, it is, so far as known, in this State entirely barren of coal. The upper group, on the other hand, is not found outside of the limits of California, is confined almost exclusively to the coast range, and is the coal-bearing formation of this State.

The other group is the miocene or middle tertiary formation. This group of rocks is one of the most widely spread on this side of the continent, and is known, so far, to exist from the Russian possessions on the north to Cape San Lucas on the south. In a thousand places along this vast extent it contains small seams of coal, well marked enough to deceive the ignorant prospector, but never of sufficient extent to be practically valuable, except in a single locality in the State of Oregon.

Before proceeding further, it would, perhaps, be well to glance in detail at the several localities on this coast that have yielded coal in profitable quantities. The number of these localities is small, though, doubtless, an increased demand, combined with a diminished cost of labor, will increase their number.

Bellingham bay, in almost the extreme northwestern corner of Washington Territory, is the site of one of the largest and best mines on this side of the continent. The deposit consists of about fourteen feet in thickness of coal and slate, of which I was informed that about nine feet were available for mining. The coal itself, as compared with other coals of the coast, is of fair quality, the greatest drawback being the occasional presence of sulphur, rendering it unpleasant for domestic purposes. The position of the mine, with reference to the harbor, is excellent. The mouth of the mine is barely over a fourth of a mile from the vessels in the harbor in which the coal is shipped. The coal is, therefore, only handled in the mine and while being picked in the coal-house, thereby avoiding much of the breakage to which soft coals are subjected by repeated handlings. The vein dips at a high angle, and all of the coals and the water have to be extracted by expensive machinery.

At Nanaimo, on Vancouver island, about seventy miles above Victoria, there is a deposit of the same geological age as that at Bellingham bay, and which has been worked extensively. This mine was originally owned and worked by the Hudson Bay Company. About 1863 it was sold to a company called the Vancouver Island Coal Company. The appliances about the mine are of the most substantial and convenient kind, and the working of the mine was, at the time of my visit, a model of good engineering. The coal is claimed to be superior to any other produced on the coast, and commands a higher price in the San Francisco market than any other west coast coal.

Many other deposits of coal exist along the shores of the Straits of Fuca and Puget sound. Most of these are, however, either so inaccessible or so small that, with the present costs of labor and transportation, they can hardly prove profitable. An exception to this remark may exist in the Straits of Fuca mine, near Clallam bay, Washington Territory, opened within the last year or two. It is claimed that this is a really good mine. It will certainly need to have an extensive deposit of good coal to be of the slightest value on that inhospitable coast.

Coming southward, the next region of any importance is Coos bay. As stated above, the coal of this locality is of tertiary age. The deposit does not seem to be very extensive, and it is so located that but a small portion of it can be worked. Most of the coal lies under heavy rolling hills at a great depth from the surface. One mine—the Newport or Flanagan mine—has been worked in a small way for eight or nine years with very satisfactory results. Upwards

of thirty thousand tons of coal have been shipped to San Francisco, and sold there at a price above the current average price of west coast coals. The deposit consists of three veins, separated by only a few inches of soft claystone, and making an aggregate thickness of eight to nine feet of good compact coal, with almost no slate or bone coal.

The deposit is nearly horizontal, dipping towards the mouth of the mine with only sufficient angle to permit unassisted drainage, and the running out of the cars by gravity. No hoisting or pumping gear has ever been or ever will be used in this mine. The coal is carried seven-eighths of a mile in cars to a wharf, where it is shot into lighters and carried a mile thence to the vessel in which it is shipped to San Francisco. Were the railroad extended so as to avoid lighterage, and the expense and loss consequent on the repeated handlings of the coal, and were the coal shipped in steam vessels devoted exclusively to this trade, instead of being carried by the one or two hundred tons at a time in lumber vessels, this mine might be made the most profitable, as well as the most popular, on the coast.

Many localities of coal are known in interior Oregon—as, for instance, on the McKenzie fork of the Willamette river; the vicinity of Eugene City; several places in the valley of the main Columbia, &c., &c.; but interior coal mines can never be of practical value in California or Oregon at a distance from railroads and navigation, unless for local manufacturing purposes, especially in the vicinity of the heavy forests which clothe so much of the surface of Oregon.

In California the coal formation is found over a large area. I have identified it in the coast ranges from the vicinity of Round valley, Mendocino county, to New Idria, Monterey county. In the former locality the coal forms a bed about ten feet thick, very impure, but with one or two seams, of about a foot thick, of excellent quality. The locality is so inaccessible, however, that it can never be of any value. At New Idria, about four miles from the Idria mine, the same beds occur again, and have been “prospected” to some extent for coal. Here they exist as beds of clay slates, barely impregnated with a little carbonaceous matter. Impure as these strata are, they are nevertheless, without doubt, the exact equivalent of the coal beds of Monte Diablo.

The Monte Diablo mines are located in a range of hills lying north and north-east of the mountain, along a nearly east and west outcrop. The coal has been found for five or six miles in a nearly continuous line, although not more than three miles of this extent has as yet proved of sufficient value to render mining profitable. The veins have been somewhat disturbed by faults, and I have reason to believe, from some examinations I made in 1862, that beyond certain limits they thin out rapidly. This is markedly the case to the west of the Peacock mine.

The deposit in this region consists of two veins, the lower of four feet thick, known as the “Peacock” or “Cumberland” vein; the other, of three feet thick, called the “Clark” vein. These two veins, named after the first mines in which they were first well explored, are separated by about three hundred feet in thickness of sandstones.

A number of mines have been opened at various points along the outcrops of the two veins, the principal of which are the Cumberland and Black Diamond, the Clark, Cruikshanks, Adams, Independent, Manhattan, and Peacock. In some of these veins work has been suspended, as, for instance, in the Peacock mine, where the vein was found so much disturbed as to be of little value. In others, work has been prosecuted with considerable vigor, and, as the shipments to San Francisco show, with some success. The greatest drawback to the profitable working of these mines has been the cost of land carriage from the mines to a shipping point on the San Joaquin river. Formerly the coal was hauled from the mines to a shipping point on the river, a distance varying from six to nine miles. Recently, however, two railroads have been completed, one ter-

minating at New York, the other near Antioch, thereby very materially diminishing the most important expenses to which the proprietors of the mines were subjected.

High hopes were at one time built on the coal discoveries in Corral Hollow, some thirty miles south of Monte Diablo, on the east face of the Coast range. Several mines were opened and much money expended. In fact a small quantity of coal was carried thence to San Francisco, but inasmuch as it has been ascertained by careful and reliable estimates that every ton of coal thus delivered in San Francisco had cost the proprietors of the mines over one hundred dollars, (\$100,) the presumption is that the mines are of but little commercial value. There is here at least one bed of coal of considerable size, but of very poor quality and variable thickness. Furthermore, it is so broken and twisted by the disturbing forces to which the rocks of the vicinity have been subjected that, even were the coal good in quality, the vein could not be relied on.

On the southern slope of the San Gabriel mountains, about thirty-five miles northeast of Los Angeles, is a locality from which some coal has been obtained. I saw a ton or more in a blacksmith shop in that city a year ago. It is apparently a little below the average of west-coast coals in quality, is soft, and somewhat impure. So far as I am aware the locality has never been visited by a geologist, and we have no definite information about it, though the general features of the region appear to point to the same geological age for this as for the Monte Diablo beds.

The distance of this mine from water transportation must render it valueless at least to the present generation.

About seven miles northeast from Oroville is a small bed of very impure coal. The material contains so much earthy matter that it is almost a question of doubt whether it would not be more proper to describe it as carbonaceous shale rather than as coal. Of course it is valueless for fuel, though I was informed in 1864 that it was used successfully in the Oroville gas-works for the manufacture of illuminating gas.

On Eel river, about three or four miles southwest of Round valley, Mendocino county, is a bed of coal about ten feet thick, striking directly across the bed of the river and forming a little cascade. The deposit is of the same geological age as that of Monte Diablo, and although most of it is very impure, it contains one or two seams, of about a foot thick each, of excellent quality.

It is, however, so far inland and so completely surrounded by high and rough mountains that it is extremely doubtful if it will ever become practically available.

In addition to the above localities, which have already yielded or can be made to yield coal in quantity, there are hundreds of places scattered all over California, especially in the Coast range, where small quantities of coal have been found, and where, at the same time, there is no possible chance of finding it in such quantity as to be of value. The miocene rocks contain everywhere small seams of coal of an inch or more in thickness, which, like the *ignis fatuus*, have led on the unfortunate miner by holding constantly before his eyes the dazzling promise of a fortune as soon as the "veins come together," or when he shall have gotten "below the water line"—prospects always in the future, often implicitly believed in, and never realized. The little inch-veins, often very numerous and quite close together, never unite, but have been known to run parallel for many yards—in fact, as far as the patience and money of the "prospector" would extend.

The coals of the west coast are, like all coals of the later geological formations, soft, more or less friable, and contain considerable water. Compared with true carboniferous coal, such as Pennsylvanian or English, they give less heat, and the loss is far greater by breakage in handling.

The following table of analyses of various coals on this coast is extracted from the report of Professor Whitney, State geologist of California. The professor

remarks that these analyses were made in 1861 and 1862, and are from specimens taken at no very great depth:

	Mount Diablo, California.					Bellingham bay, Washington Ter.	Nanaimo, Vancouver's island.	Coos bay, Oregon.
	Clark mine.	Black Diamond.	Cumberland.	Peacock.	Corral Hollow.			
Water	13.47	14.69	13.84	14.13	20.53	8.39	2.98	20.09
Bituminous substances...	40.36	33.89	40.27	37.38	35.62	33.26	32.16	32.59
Fixed carbon	40.65	46.84	44.92	44.55	36.35	45.69	46.31	41.98
Ash	5.52	4.58	0.97	3.94	7.50	12.66	18.55	5.34

It will be observed that there is a great similarity between all of the coals produced on this coast. There is probably, however, one weak point in the table. The Nanaimo coal is here shown to have a very large quantity of ash as compared with the California and Oregon coals. It is not improbable that the analysis may have been based on a poorer specimen than the average, though Professor Whitney assures me that it looked like a fair sample.

The subjoined table exhibits the amount of coal received in San Francisco since the year 1860. It does not, however, give the full yield of all the mines, inasmuch as small quantities of our domestic coals are shipped to inland towns and used in the vicinity of the mines. It will be seen, however, that, small as the figures are, the demand is steadily increasing, and the facilities are good for supplying this demand for many years to come:

Imports of coal into San Francisco since 1860.

	1860.	1861.	1862.	1863.	1864.	1865.	1st 9 months 1865.		1st 9 months 1866.	
	<i>Tons.</i>	<i>Tons.</i>	<i>Tons.</i>	<i>Tons.</i>	<i>Tons.</i>	<i>Tons.</i>	<i>Tons.</i>	<i>Casks</i>	<i>Tons.</i>	<i>Casks</i>
Foreign coals—										
Sydney	7,850	23,370	12,590	16,890	21,160	17,610	9,144	.....	34,484	.....
Vancouver	6,655	6,475	8,870	5,745	12,785	16,190	8,551	.....	7,280	.....
English	6,640	23,565	16,055	14,660	18,330	9,655	5,959	.....	5,131	.....
Chili	1,900	12,495	5,110	1,790	2,323	1,410	.....	.....	1,480	.....
Unspecified						810	.....	.....		.....
	23,045	65,905	42,625	39,085	54,600	45,675	23,654	.....	48,375	.....
Eastern—										
Anthracite	34,985	26,060	36,685	38,660	41,680	22,585	20,638	.....	6,293	.....
Cumberland	5,970	2,975	4,970	5,670	7,275	4,230	20	2,858	6,834	3,604
	40,955	29,035	41,655	44,330	48,955	26,815	20,658	2,858	13,127	3,604
Domestic—										
Bellingham bay	5,490	10,055	10,050	7,750	11,845	13,700	8,000	.....	9,590	.....
Coos bay	3,145	4,630	2,815	1,185	1,200	1,500	1,300	.....	2,500	.....
Monte Diablo		6,620	23,400	43,200	37,450	58,560	39,848	.....	54,087	.....
	8,635	21,305	36,265	52,135	50,495	74,760	49,148	.....	66,177	.....
Grand total ..	72,635	116,245	120,545	135,550	154,050	147,250	93,460	2,858	127,679	3,604

9.—IRON.

In consequence of the present high price of fuel and labor, the development of the iron resources of the Pacific coast has not received as much attention as their magnitude and importance demands. There are numberless extensive deposits of all descriptions of iron ores in all the States and Territories on the coast. Thus far there has been but one furnace erected for the reduction of

this ore to metal. This establishment is located near St. Helens, within a short distance of the Columbia river, in Oregon, where there is an exceedingly fine body of ore, conveniently located with reference to fuel and water transportation. Arrangements are in progress for the erection of similar works in other places. One is in course of construction in Sierra county, California, about fifteen miles above Downieville, where there is a very large body of ore, which assays from 60 to 75 per cent. There is some talk of erecting a smelting works in the vicinity of San Francisco for the purpose of reducing the grains of specular iron ore found in great abundance among the sand on the shores of the bay.

The consumption of pig-iron in California is rapidly increasing, as the demands for machinery multiply.

In 1859 the foundries at San Francisco consumed	5,000 tons.
1860.....do.....do.....do.....	6,500 do.
1861.....do.....do.....do.....	6,500 do.
1862.....do.....do.....do.....	5,000 do.
1863.....do.....do.....do.....	10,000 do.
1864.....do.....do.....do.....	14,000 do.
1865.....do.....do.....do.....	20,000 do.
1866.....do.....do.....do.....	20,000 do.

There is probably as much more used in the interior of that State, Nevada, and Oregon.

LIST OF THE ORES OF METALS FOUND ON THE PACIFIC COAST.

Copper, silver, antimony, manganese, iron, lead, arsenic, magnesium, tin, zinc, bismuth, molybdenum, chromium, tellurium, mercury, nickel, cobalt.

NON-METALLIC MINERALS.

Marble, alabaster, sulphate of lime, carbonate of lime, kaolin, pipe-clay, fullers' earth, sulphur, borax, fire-clay, soapstones, asbestos, lithographers' stone, petroleum, asphaltum, salt, alum, emery, coal, blacklead.

BUILDING MATERIALS.

Granites, sandstones, limestones and marbles, slates, brick clays, &c.

GEMS AND PRECIOUS STONES.

Diamonds, rubies, emeralds, amethysts, garnets, beryl, topaz, agates, jaspers, cornelians, opals, sapphires, egmarin, &c.

SECTION 8.

MINING REGION, POPULATION, ALTITUDE, ETC.

1. Mining region and mining population.—2. Main divisions.—3. Altitudes.—4. Climate.—5. Capacity to maintain a large population.—6. Number of miners.—7. Timber.

1.—THE MINING REGION AND THE MINING POPULATION.

All that portion of our continent west of the Rocky mountains is, we may say in general terms, rich in minerals, and especially in gold, silver, and copper. The western slope of Mexico has produced more silver during the last three hundred years than all the rest of the world. Arizona has rich placers and valuable veins of silver and copper; Nevada has silver; California, gold, silver, and copper; Oregon, gold; Idaho, gold and silver; Montana and British Columbia, gold. The lower part of the basin of the Columbia and the upper

part of the basin of the Colorado are comparatively poor. The richest mines in the interior basin are of silver; the richest in the basins that open to the sea are of gold.

2.—MAIN DIVISIONS.

The American territory on the Pacific slope has an area of 900,000 square miles, and is divided by well marked topographical features into four main divisions:

1. The coast, which includes a strip about 150 miles wide, west of the Sierra Nevada and Cascade mountains.
2. The basin of the Colorado, which includes all of Arizona and the eastern and southern parts of Utah.
3. The basin of the Upper Columbia, which includes nearly all of Idaho and portions of Oregon, Washington Territory, Utah, and Montana.
4. The interior basin, which includes most of Nevada and Utah and parts of Oregon and Idaho.

These divisions, or basins, are separated from one another by high mountain ranges, but the only divide which has been carefully traced and laid down on the maps is that east of the coast basin. The ridges which separate the interior basin from the Columbia on the north, and from the Colorado on the south, have not been precisely laid down. The interior basin is divided up into a number of independent minor basins, all of which are high, arid, and, in their natural condition, desolate; although there are a few valleys which by the hand of man have been irrigated and cultivated. Along the coast considerable quantities of rain fall; the surface of the earth is, in the low lands, covered by a deep mould, and there is a luxurious vegetation, especially in Oregon and Washington, where the forests on the mountains are so dense that there is little hope for the discovery of minerals among them. But in the basins of the interior, the upper Columbia and the Colorado, there is little mould or vegetation; the mountains are steep, the rocks are bare, and mineral veins are readily found and traced.

The poverty of the country in agricultural resources is the cause of one of its great advantages for mining.

3.—ALTITUDES.

The American mining regions of the Pacific slope, like most of those elsewhere, are mountainous. The gold mines of California are at various elevations—from 500 to 6,000 feet above the level of the sea. The Sierra Nevada rises in many places to a height of 9,000 feet, or even more; and from the comb of the ridge to the level land of the valley, the distance in a direct line is from forty to fifty miles; and the descent of the streams, with all their bends, is more than a hundred feet to the mile. With the rapidity of current consequent on such a descent, they have worn very deep channels, leaving steep and high intermediate hills. It is on the side of the mountains thus cut into great cañons that most of the mining of California is done. The average elevation of the placers of the Sacramento basin may be estimated at 2,000 feet. The lowest mining towns never have snow or ice for more than a day or two at a time, while in the highest the snow lies every year four or five months; and racing on snow-shoes is one of the common winter amusements. The mines in the valley of Klamath river are at an elevation of about 2,500 feet. The silver mines of Kearsarge, in California, are 10,000 feet above the sea. The silver mines of Alpine county are 6,000 feet high. The mines on the Comstock lode are from 5,500 to 6,500 feet high. The Reese River mines have an elevation of about 7,000 feet. The Idaho mines vary in height from 3,000 to 6,000 feet. The mines of Arizona are at various elevations—from 300 to 3,000 feet. Those

on the banks of the Colorado river are probably as near the level of the sea as any in the world. The quicksilver mine of New Almaden is 1,000 feet above the sea.

The following are the elevations in feet above the sea of some of the principal mining towns :

Placerville	1, 800
Auburn	1, 200
Dutch Flat	2, 943
Nevada, California	2, 573
Brandy City	3, 592
Eureka, Sierra county	5, 223
Sierra Buttes mine	7, 000
Nelson's Point	3, 858
Quincy	3, 500
Shasta City	1, 159
Murphy's	2, 201
Silver Mountain	6, 516
Markleville	6, 306
Mogul	8, 650
Silver City	4, 911
Virginia City, Nevada	6, 205
Como, Nevada	6, 600
Colorado, at Mohave crossing	356
Great Salt Lake city	4, 351

Herschel lays down the rule that the temperature sinks one degree of Fahrenheit for each 350 feet of elevation.*

4.—CLIMATE.

In the coal mining districts of Monte Diablo, and at the quicksilver mine of New Almaden, the climate is very mild and equable. The sea breeze is felt nearly every summer day, and a temperature of 90° is rare. The heat of the sun's rays is broken by the cool winds and fogs from the ocean, and the evenings are invariably cool, so that though light cotton garments may be pleasant for wear at noon, woollen are in demand before sunset, and every night, even in July and August, good blankets are prized.

In winter ice is seldom formed, and not once in a year does it last through a day, and if snow falls it is only on high peaks. Skating, snow-balling, and sleigh-riding are amusements which cannot be enjoyed here. Fogs are not uncommon in the summer, but they always disappear after the sun has been up a few hours, and two-thirds of the days of the year are cloudless. There is no rain from May to November, and during the rainy season the amount of water that falls is twenty-two inches, or about half of the quantity that falls at New York or Philadelphia in a year. Thunder and lightning are very rare, and such violent electric storms as are frequent every summer in the Mississippi valley are unknown on the coast of California. It may safely be said that no climate in the world is more favorable to the health and activity of man, or more conducive to the comfort of the laborer.

As we leave the coast the moderating influences of the sea breezes are lost, and the winters are colder and the summers warmer. At the lowest mining camps east of Sacramento, although the winters are very mild, yet ice and snow in small bodies are often seen for two or three consecutive days, and the summers are intensely hot; and, indeed, in all the mining districts of California the summers are warm, even at high elevations, especially in the deep cañons,

*Physical Geography, by Sir J. F. W. Herschel, page 226.

where the breezes are not felt, and where the heat of the sun is caught by steep rocks and reflected down upon the mining camps below.

In the valleys and lower part of the mountains the heat is excessive from May to October, the thermometer standing as high as 85° or 90° nearly every day for month after month. There is no rain usually in that part of the year; the sky is almost cloudless; the bare earth appears to be perfectly dry during the summer and fall; heats are therefore higher than in many other countries blessed with abundant vegetation and frequent showers throughout the year in the same latitude. But the nights are always cool, especially after midnight; and as we rise in altitude on the mountain sides, we find neither frosts nor snows, and the summers are shorter and cool days more frequent. At Yreka, with an latitude of two thousand five hundred feet, frosts come even in July; and in the latitude of San Francisco, frosts occur every month at an altitude of about five thousand feet, and snow lies on the ground for seven or eight months of the year. In the higher mining camps of Sierra county the snow lies from five to ten feet deep, every winter, for months, and the miners shovel the snow from the roofs of their cabins to save them from being crushed by the weight; and cut tunnels under the snow from cabin to cabin, and provide snow shoes so they can travel over the surface of the snow if necessary. During a large part of the year the country is arctic in its appearance, and the climate is arctic in its temperature.

In the lower mining districts of the southern part of Sacramento basin the heat is almost torrid. At Millerton, in the San Joaquin foot-hills, the mean temperature for three summer months has been as high as 106° , and occasionally there are winds so hot that they blister the skin. The amount of rain in California increases as we rise in altitude and latitude. That is a general rule. Thus at San Diego, in latitude 32° , the annual rain-fall is 11 inches; at San Francisco, in latitude $37^{\circ} 43'$, it is 22 inches; and at Humboldt Bay, in latitude $40^{\circ} 46'$, it is 34 inches. Those places are all at the level of the sea and on the sea-coast; five additional inches of rain may be added for each thousand feet of altitude. So it may be said that in the latitude of San Francisco places at the height of 2,000 feet on the sierra have 32 inches of annual rain-fall; places 4,000 feet high have 42 inches; those 6,000 have 52 inches; and those 8,000 feet 62 inches. These are general deductions from numerous observations taken at different points; but they must not be regarded as precise and invariable. The higher the altitude the greater the difference in the rain-fall of different years, and the stronger the influence of topographical features in determining the amount of fall within a limited area.

Much more water usually falls on that side of a mountain from which the storm comes than on the other. At an altitude of 3,000 feet, and higher, large quantities of snow fall; but in the estimate of the amount of rain on the mountains given above, a foot of snow is equivalent to a little more than an inch of water. But north of California, or east of the Sierra Nevada, we come into other climates. At Fort Yuma, 100 miles east of San Diego, only one-third as much rain falls as at the latter place, and most of the rains come, not in the winter, but in the summer. The rainy season of Arizona and the Colorado valley is the dry season of the coast of California. All through Arizona the climate is dry and the summers hot, but the winters are exceedingly cold in some of the higher mining districts.

Nevada and Utah are high, dry, arid, and desolate. The evaporation equals the rain-fall, and therefore no water can be spared for the ocean, but all is swallowed up in sinks or lakes, in basins surrounded by mountains on every side. If the fall exceeded the evaporation, the waters would rise until the basin would overflow, and at the outlet a channel would be worn through the mountains until much of the inner lakes were drained, and at the bottom of that lake large bodies of sand, gravel and loam would be deposited, suitable for the support of

vegetation, when at last it should rise above the water in consequence of the increasing depth of the channel at the gap in the mountains. The valley of the upper Colorado looks as if it had once been converted into a great lake by the elevation of the Cascade mountains, but the river cut a channel at the Dalles before a sufficient quantity of soil had been deposited over the basin, and so the greater part of it is desolate. There is much resemblance between the climates of Idaho and Nevada. The summers are very warm, the winters are cold, and the fall of rain scanty, but the rain-fall is greater in Idaho than in Nevada.

The following figures show the temperature for each month and for the year at various towns in or near mining districts :

	Latitudes.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
Benicia	38.03	47	52	53	57	59	67	67	66	64	62	54	47
Fort Miller	37.	47	53	56	62	68	83	90	83	76	67	55	48
Fort Reading	40.28	44	49	54	59	65	77	82	79	71	62	52	44
Fort Yuma	32.43	56	58	66	73	76	87	82	90	80	76	64	55
Fort Jones	41.36	31	37	43	49	54	61	71	68	62	57	41	32
Sacramento	38.34	45	43	51	59	67	71	73	73	66	64	52	45
Grass valley		27	37	38	44	49	52	63	58	53	43	36	46
Meadow valley	39.56	34	32	41	....	61	66	71	63	57	52	44	32
Fort Wall	43.04	24	24	25	42	....	....	....	63	59	48	22	....
Dalles	45.36	33	40	46	53	59	67	73	70	61	53	41	33
Salt Lake City	40.46	27	35	39	50	65	71	81	....	....	....	41	34
Lapwai	46.27	31	38	42	52	59	68	70	72	64	48	41	40
Fort Defiance	35.44	26	30	38	46	51	64	69	67	56	46	35	29

The following table shows the rain-fall at a few points and in inches :

	Spring.	Summer.	Autumn.	Winter.	Total.
Sacramento	7.01	0.00	2.61	12.11	21.73
Fort Yuma	0.27	1.30	0.86	0.72	3.15
Fort Miller	9.57	0.02	2.80	9.79	22.18
Fort Miller	11.30	0.39	4.89	12.44	29.02
Fort Jones	5.38	0.89	5.30	5.20	16.77
Fort Defiance	2.91	6.45	4.84	2.97	17.17
Dalles	2.63	0.42	3.78	6.98	13.81

The cost of living is high in all the States and Territories west of the Rocky mountains. Flour and beef are usually sold in San Francisco for about the same price demanded in New York ; but transportation to the mines is very expensive, and the commissions and profits of traders are large. To Austin the freight in summer by wagon is seven to ten cents per pound from Sacramento ; to Virginia city, three and one-quarter cents ; from Marysville to Quincy, two and one-quarter cents ; to Grass valley, one-half of a cent ; to Downieville, one cent and a third. The freight from San Francisco to La Paz, on the Colorado, is about one and a half cent per pound ; and to the Idaho mines, about seven cents per pound. In the winter freights rise, and there is then no limit to them, save the needs and the purse of the shipper. The mining counties of California now grow nearly all the fruits and vegetables, and some of the grain, consumed by the miners ; but all the clothing, fine tools, fine furniture, and many articles of food are brought from the valleys or chief seaport.

In consequence of the bad condition of the roads in the winter and the un-

settled character of the population the supply is frequently unequal to the demand, and then prices go to high figures, especially in the remoter districts. The cost of the necessaries of life generally for laboring men is three times as great in the mining counties of California as in the interior counties of New York, and from four to six times, in Nevada, Idaho, and Arizona.

5.—CAPACITY TO MAINTAIN A LARGE POPULATION.

California can maintain a large population. In many respects the State resembles Spain. It has a similar climate, soil and size, and should support as many inhabitants. The population of Spain is at present fourteen millions, and under the Moorish dominion many valleys which are now bare and desolate were well tilled and densely populated. Spain has 188,000 square miles, and California 160,000, and our State has sources of wealth which the Spanish peninsula has not. The Sacramento basin bears a strong resemblance to Lombardy, which has the densest population and most thorough tillage of Europe. In an area of 6,000 square miles three millions of people are collected; and they are noted for physical beauty and intellectual activity; hence it does not appear that their crowded condition has done them harm. A large part of the wealth of the Lombards is derived directly and indirectly from irrigation, which they have carried further than any other nation. The Alps there rise to an average height of 6,000 feet, from their northern boundary along a line one hundred and twenty miles, and the snow which falls in these mountains furnishes the water for many of the most valuable canals. The Sacramento basin has an area of 25,000 square miles, lying along the foot of a mountain range 400 miles long and 10,000 feet high on an average. The low land of the basin has a soil as fertile and a climate as genial as that of Lombardy. The amount of moisture from rain is not so great in the valley, but that obtainable from the mountains is greater. The Lombards have natural lakes that serve as admirable reservoirs; but the Californians can make lakes by throwing dams across the cañons. The vine, the silk-worm, and rice, which contribute much to the wealth of the valley of the Po, will thrive at least as well in the valley of the Sacramento. When, in addition to these agricultural resources, we consider the mineral wealth of the Sierra Nevada, and the commercial advantages of the terminus of the Pacific railroad, the central position between China and New York, and between Oregon and Mexico, we are justified in the conclusion that California can well support a population of ten or fifteen millions.

6.—NUMBER OF MINERS.

The following table shows the number of miners of different classes in certain counties of California, as estimated by well-informed persons in those counties, the limited time for the preparation of this report not permitting more than an estimate on this point:

	Total number of white miners.	Total number of Chinese miners.	Number of gold quartz miners.	Hydraulic miners.	Other placer mi- ners.	Silver miners.	Copper miners.
Del Norte.....	250	300	-----	100	350	-----	100
Klamath.....	700	300	100	50	850	-----	100
Trinity.....	700	1,500	100	500	1,600	-----	-----
Siskiyou.....	2,500	500	300	200	2,500	-----	-----
Shasta.....	1,000	300	500	100	1,000	100	100
Plumas.....	1,000	400	300	300	700	-----	100
Butte.....	1,000	1,500	200	300	2,000	-----	-----
Sierra.....	2,500	1,500	500	800	2,700	-----	-----
Nevada.....	300	1,500	2,000	1,000	1,100	300	100
Yuba.....	1,000	1,000	300	300	1,300	-----	100
Placer.....	1,800	1,500	300	600	2,350	-----	50
El Dorado.....	2,000	3,000	300	500	4,150	-----	50
Alpine.....	400	-----	-----	-----	-----	400	-----
Amador.....	1,200	1,500	400	200	1,600	-----	500
Calaveras.....	2,500	2,000	500	500	2,500	-----	1,000
Coluumbne.....	2,000	1,500	500	300	2,400	-----	300
Mariposa.....	1,000	1,500	500	100	1,600	-----	300
Ferced.....	50	100	-----	-----	150	-----	-----
Stanislaus.....	200	100	-----	-----	300	-----	-----
Fresno.....	150	300	50	-----	400	-----	-----
Monrovia.....	200	-----	-----	-----	100	100	-----
Merced.....	400	-----	200	-----	-----	200	-----
Colusa.....	200	-----	-----	-----	-----	200	-----
Total.....	25,750	20,800	7,150	5,850	29,550	1,300	2,700

7.—TIMBER.

The mining counties of California are generally supplied with abundant timber for present uses. The forests, from 3,500 to 5,500 feet above the level of the sea, on the western slopes of the Sierra Nevada, are very dense, and are composed of magnificent conifers, many of which have a diameter of five feet or more, and a height of 200 or 250 feet. The sugar pine and the Douglas spruce, both valuable for lumber, are large and abundant. These dense forests are, however, higher up than most of the mining districts, which are found among hills covered with scattered oak and nut pine. In the vicinity of the mining towns the trees have been destroyed in a ruthless manner, and many hills that were once well timbered are now bare. There was no private owner for the land, and the timber was wasted in many cases; trees were cut down for firewood, and only the branches were taken because by that means the wood-chopper could cut more wood than if he split up the tough trunk. The course was profitable to the woodman, but bad for the State; and numerous complaints were made until 1864, when the legislature made it a criminal offence to destroy the timber in this manner, although permitting any one to cut timber on the public land for firewood or other useful purposes in an economical manner.

In the northwestern corner of California and the southwestern corner of Oregon the forests are so dense in several of the mineral districts that they interfere greatly with mining, and will prevent the exhaustion of the auriferous deposits for many years. In eastern Oregon and in Idaho there is enough timber to supply the miners for many years. In Nevada and in western Arizona there is a great scarcity, and wood can be obtained in few places without high expense. Good firewood costs from two to four dollars per cord in most of the mining towns of California, and from ten dollars upwards in Nevada.

SECTION 9.

Annotated catalogue of the principal mineral species hitherto recognized in California, and the adjoining States and Territories: by William P. Blake. March, 1866.

Actinolite.—Occurs with garnets in steatite at Petaluma.

Alabaster.—In Los Angeles county. Specimen in cabinet of the author, received from Mr. Tyson, of Arizona.

Andalusite.—Mariposa county. In the drift of the Chowchillas river, near the old road to Fort Miller, there is a great abundance of fine crystals of andalusite which show the dark lines or crosses in a remarkably perfect and interesting manner. They are found also in the stratum of conglomerate which caps the hills along the stream, and are doubtless in place in the slates a little higher up the river.

Smaller and less perfect "macles" occur in the slates at Hornitos, on the road to Bear valley. Some of the specimens from the Chowchillas river resemble those from Lancaster, Massachusetts.

Antimony, (sulphuret of.)—(See *Stibnite*.)

Antimony ochre.—San Amélio mountain, with antimony-glance.

Agates and carnelian.—Beautiful pebbles of agate and carnelian are abundant along the beach at and near Crescent City. They are much water-worn and are generally of light colors. Larger pebbles and more highly colored are abundant in the pebbly drift along the Colorado river. Small but very smooth, worn specimens of agate and jasper may be picked up on the shores of Lake Tahoe.

Arsenic.—Monterey county, at the Alisal mines, twenty-five miles from the Mission of San Carlos.

Arsenical antimony.—Ophir mine, Nevada Territory. In reniform, fine crystalline, somewhat radiated masses, of a color between tin-white and iridescent black, on a fresh fracture, but grayish black from tarnishing; associated with arsenolite, calcite, and quartz.—(*F. A. Genth, Am. Jour. Sci.*, (2) xxxiii, 19)

Arsenolite.—Occurs in large masses, with native gold, at the Armagosa mine, Great Basin. It is also reported from the Ophir mine with arsenical antimony.—(*Genth*.)

Asbestos.—Calaveras county, Salt Spring valley, at the Kentucky claim. Los Angeles county (?) in large masses. (From Major Ströebel.)

Azurite, (blue carbonate of copper.)—In fine crystalline groups and masses, with malachite, at Hughes's mine, Calaveras county. (1861.)

Biotite.—From the vicinity of Grass valley. (Cabinet of C. W. Smith.)

Bitumen.—Occurs abundantly in numerous places in the Coast mountains, south of San Francisco, but especially south of San Luis Obispo, and in the vicinity of Los Angeles. It is frequently seen floating in the Santa Barbara channel. It is abundant in Tulare county, on the west side of the Tularell-

ley, near Buena Vista and Kern lakes, and at this and other localities is associated with petroleum, (which see.)

Blende occurs sparingly in many of the gold-bearing quartz veins of the State, especially when lead is present, as, for example, at the Princeton mine, Mariposa estate; the Adelaide mine, Hayward & Chamberlain's mine, and in several of the Grass valley mines in Nevada county; at Meadow lake, in considerable masses, with galena, iron pyrites, and copper pyrites. It is associated with yellow copper in the Napoleon mine and the Lancha Plana; in Sacramento county, at Michigan bar, associated with galena, oxide of iron, and copper ore. (Cabinet of Dr. Frey.) Placer county, fifteen miles from Lincoln, towards Nevada, with galena and gold; at the Bloom claim, near Angels' camp, Calaveras county; also in a quartz vein in Coulterville.

Borax.—Lake county, in large crystals in the clay of the Borax lake.

Boracic acid.—Clear lake, Lake county.

Carbonate of magnesia.—(See *Magnesite*.)

Carbonate of soda.—San Bernardino county, at Soda lake, sink of the Mohave river; in Tulare county, along the borders of the smaller lakes, when drying up; at the borders of the Santa Anna river, near San Bernardino.

Cassiterite.—San Bernardino county, at the "Temescal tin region," about sixty miles from Los Angeles. Occurs in many veins associated with schorl (?) traversing granite. In most of the ores the tin oxide is found only by crushing and washing. At the "Gun lode" a peculiar drab colored oxide is found in considerable quantities. It appears to be liberated by the decomposition of an arsenical ore, arsenic being abundant in the samples. The oxide, as collected in that region for examination, is in various degrees of purity, and exhibits different colors. Some of the samples obtained by washing are black, others brown, and some red and drab colored.

Idaho Territory, on Jordan creek, in placers, in beautiful rounded masses, from one-eighth to half an inch in diameter, very pure and clean—the variety known as wood tin.—(Cabinet of the author, specimens received from Charles T. Blake, esq., of Idaho City.)

Mexico, State of Durango: wood tin of great purity and beauty occurs abundantly in this State. It closely resembles the stream tin of Idaho.

Cerussite, (*carbonate of lead*).—In large crystals resembling those from Siberia, in the Russ district (?) Great Basin, near the Mojave river; Arizona, in heavy incrusting masses upon the galena of the Castle Dome district.

Chalcedony.—Large masses of white chalcedony, delicately veined, and in mammillary sheets, occur in Monterey county, near the Panochés; on Walker river, Washoe; and of a fine pink color near Aurora, Esmeralda. In pear-shaped nodules in the eruptive rocks between Williamson's Pass and Johnson's river, Los Angeles county.

Chalcopryite, (*yellow copper ore*).—This is the chief ore of the copper mines of California, as it is likewise of the mines of Cornwall, England. It is therefore found at a great number of localities, along the copper-bearing belt which stretches in a nearly unbroken zone from Mariposa county northwesterly to Del Norte county, parallel with and on the western side of the chief gold-producing belt of the State.

In Calaveras county, the chief localities (for the massive ore) are: The Union, Keystone, Empire, Napoleon, Campo Seco, and Lancha Plana mines. In good crystals, implanted on and among clear quartz crystals, at the Noble copper claim on Domingo creek. (Collection of Dr. Jones, Murphy's.) In Mariposa county, the La Victoire mines in Hunter's valley, and Haskell's claims, below Mariposa town, and claims along the Chowchillas river. Amador county, at the Newton mine; Eldorado county, at the Cosumnes mine, Hope Valley mine, at the Bunker Hill mine, El Dorado Excelsior, and other claims at and near Pilot Hill. Plumas county, at the Genessee and Cosmopolitan mines. It

occurs, also, in small quantities in Contra Costa county, in the rocks of Mount Diablo and in those of the Coast mountains south and north of San Francisco. In Los Angeles county, at Richmond district, and at Big Meadow district, both on the interior slope of the mountains at the margin of the Great Basin.— (*Vide Geol. Rec., Cal., p. 290.*)

Lower California, a few leagues south of San Diego, at the Winder claims.

Arizona, at the Apache Chief mine, after getting below the "surface" ores. At the San Pedro mines, near Fort Buchanan. Near Caborca, in northwestern Sonora.

Chloride of silver.—At the mines about Austin, Lander county, Nevada, this species is abundant in the surface ores, being derived from the decomposition of the mixed sulphurets of silver below the water level. It was also found in the decomposed ores of the upper portions of the Comstock lode, and is common to all the silver veins of the Great Basin. Some remarkably fine specimens were obtained at the ——— mine in Slate Range district, California. Occurs also in the Willow Springs district, and in the veins of El Dorado cañon, Arizona.

Chrysocolla, (silicate of copper.)—Not common in California, where the sulphurets in decomposing give carbonates and oxides; but in Arizona, along the Colorado river, very common at and near the surface where the veins containing copper glance are decomposed. Fine specimens were taken from the Great Central claim, about twenty miles from La Paz and at the Blue lode.

Chromic iron.—Monterey county, in masses, with green crusts and coatings of emerald nickel. Santa Clara county, near the North Almaden mine.

Chrysolite.—In serpentine, near San Francisco, and at New Almaden, Santa Clara county.

Cinnabar, (sulphuret of mercury.)—This is the characteristic mineral of the coast mountains, from Clear lake on the north to San Luis Obispo on the south. It appears to be connected chiefly with the secondary rocks, though at San Luis Obispo Prof. B. Silliman collected a group of fossils which appear to be miocene tertiary. (See a notice by Mr. Gabb, Proc. Cal. Acad. Nat. Sci.) The principal locality is the well known mine of New Almaden, in Santa Clara county, and the adjacent mines of the Enriqueta and the Guadalupe. The ore occurs massive, in large bunches and "strings," and is associated with calc spar, bitumen, and pyrites. The total production of quicksilver, chiefly from the New Almaden, up to January, eighteen hundred and sixty-five, was three hundred and seventy-one thousand eight hundred and eighty-three flasks, valued at about fifteen million of dollars in gold. At the North Almaden, on the east side of the San José valley, and nearly opposite the New Almaden, considerable quantities of cinnabar have been taken out of prospecting pits at this place, at several different points. A heavy ferruginous outcrop shows the general course of the metalliferous belt. The rock is hard and flinty, and is frequently beautifully streaked with brilliant red cinnabar, the whole sufficiently compact to give fine specimens for polishing by the lapidary. It occurs abundantly, and in very handsome cabinet specimens, at the New Idria mines, in Monterey county, at which work has recently been resumed. There are many localities in Napa county, and in the vicinity of Clear lake, and the Geysers. In small crystals in hornstone, at Buckhorn ranch, north of Berreyesa valley.

In Mariposa county, near Coulterville, in finely colored crystals in quartz in a gold vein. Nevada county, about four miles from Grass valley, washed out of sluice boxes, and entirely different from the New Almaden ore in appearance. Arizona, about eighteen miles from the Colorado river; at Olive City, at the Alma claim, and the Eugenie, located by Mr. Ehrenberg; associated with silver. Reported to exist in Idaho, on the Owyhee river.

Corundum.—Los Angeles county, in the drift of the San Francisquito Pass, in small crystals. (Baron Richthofen.)

Copper, native.—This species is common in small quantities in the surface ores of the principal copper mines of the State, but is not found below the permanent water level. No veins of this metal like those of Lake Superior are known upon the Pacific coast, but the abundance of large drifted masses of solid copper in one or more streams upon the northwest coast, (Russ. Poss.,) leave little doubt that such veins do exist in that high latitude. Calaveras county, at the Union mine, some very fine masses of dendritic or moss copper have been taken out.—(Cabinet of J. B. Meader.) The Keystone mine, adjoining the Union, also produced some good specimens in 1861. Found also at the Napoleon and the Lancha Plana mines; and in Sacramento county, at the Cosumnes mine. In Santa Barbara county, occurs disseminated in grains in the midst of serpentine rock. Arizona, on the Gila river, about ninety miles from Fort Yuma, at the Arizona Copper Company's mine; associated with red oxide of copper and green carbonate, and spread in crystalline masses through a gangue of calc spar.—(Cabinet of the author.) For the ores of copper, see *Chalcopyrite, Red Copper, Vitreous Copper, &c.*

Copper glance.—Los Angeles county, at the Maris mine, Soledad district, in grains and irregular masses in a sienitic granite. It contains silver. The decomposition of this ore at and near the surface gives metallic copper, and metallic silver, incrusting the surfaces of the granite where fissured. This locality was known and worked as early as 1853. In Arizona this is the most common ore of copper, especially in Weaver district, near La Paz, or Olive City. It is usually argentiferous, and is there associated with gold in quartz veins. Found also in the Chahuabi valley, the Tajo, and the San Pedro mines, and near Caborca, in northwestern Sonora.

Derbyshire spar.—Castle Dome district. (See *Fluor spar.*)

Diamond.—Butte county, Cherokee Flat, ten miles from Oroville. In well formed, highly modified crystals, from one-eighth to three-sixteenths of an inch in diameter, and generally of a pale straw yellow color. Crystallization tetrahedral, like figure 267, page 24, Dana's System of Mineralogy.

Idaho.—Reported to exist on the Owyhee river.

Diallogite, (carbonate of manganese.)—Occurs abundantly in the silver-bearing veins about Austin, Nevada. By decomposition it becomes black, and discolours the upper parts of the vein, but at and below the water line, with the unchanged ores of silver, it has a delicate flesh-red or pink color.

Dolomite—Amador county, in narrow, snow-white veins, traversing a talcose chloritic rock, and bearing coarse free gold.—(Cabinet of the author, specimen presented by Mr. James.) Calaveras county, Angel's Camp, in the Winter, Hill's and other mines, massive, with the quartz veins, and bears gold. Sometimes in fine crystals, lining cavities. San Bernardino county, at the Armagosa mine, bearing coarse gold.

Embolite.—Is believed to occur in the surface ores of Lander county, Nevada, near Austin, and of Washington district, further south, but has not been certainly identified.

Emerald nickel.—Monterey county, with chrome ore.

Feldspar.—San Diego county, in crystals. (See *Orthoclase.*)

Fluor spar.—In crystals and large cleavable masses of various tints—white, pink, and purple and green, like the specimens from Derbyshire, England, in the veins of galena and blende, Castle Dome district, Colorado river, Arizona. Sparingly, in small white cubes, with the copper ore, at Mount Diablo.

Galena, (sulphuret of lead.)—This common ore of lead has not yet been found in finely crystallized cabinet specimens on the Pacific coast. The localities of the massive or granular ore are numerous, it being found in small quantities in many of the gold-bearing veins of the State, especially at the following: Mariposa county, at Marble Springs mine; Princeton mine; Adelaide. Calaveras county, at the Barnes and Silver Elephant claims, at Murphy's; at the

Star of the West, Blue Mountain district, and the Good Hunter claims, with gold. In Sacramento county, at Michigan bar, with blende and pyrites. Nevada county, at Meadow lake, with blende. Tuolumne county, at the Soulsby mine, with blende and iron pyrites and gold. In Nevada county, in several of the veins at Grass valley, with free gold. In Tehama county, on Cow creek; and abundantly in veins on the island of Santa Catalina. In Arizona it is abundant in the veins of the Castle Dome district, twenty five miles from Fort Yuma, and in the Eureka district on the same river, about twenty-five miles further north; also in the Piccacho district, and in the Weaver district, near La Paz; at the Santa Rita mine, with gray copper ore; in the Tajo vein, with copper glance, blende, tetrahedrite, and gold; in the Santa Cruz mountains, south of Fort Buchanan; at the Mowry and Patagonia mines; at San Xavier, on the Santa Cruz, (Pumpelly.) In Nevada it is abundant on Walker's river, north of Esmeralda, and at Steamboat Springs, Galena district. It is also found in portions of the Comstock lode, Washoe, associated with the silver sulphurets; but where it is associated in that vein with much blende and copper pyrites, it is not rich in silver—forming the ore commonly known there as "base metal."

Garnet.—El Dorado county, at Fairmount mine, three miles from Pilot Hill, in large blocks and masses two feet thick or more. Associated with specular iron, calc spar, iron pyrites, and copper pyrites, with actinolite in steatite, near Petaluma, Sonoma county; in large semi-crystalline masses, weighing ten to twenty pounds, and of a light color, from the Coso mining district. (Specimens of this were brought to San Francisco under the supposition that it was tin ore.) A beautiful green garnet, grossular, is found with the copper ore of the Rogers claim, Hope valley, El Dorado county, and similarly in copper ore at the Mountain Meadows, Los Angeles county. In Russian America, Stickeen river, in finely formed trapezohedral and dodecahedral crystals imbedded in mica slate, and much resembling specimens from Monroe, Connecticut.

Gold, (crystalline.)—Placer county, at Irish creek, three miles from Coloma, in arborescent and crystalline masses covered with octahedrons. (Eighteen hundred and fifty-four, cabinet of author.) At Forrest Hill, in the same county, in the placer claims of the Messrs. Deidesheimer, in flattened and distorted octahedra. One crystal is a partially formed octahedron, with a rectangular base one inch long by seven-eighths of an inch wide. At Mameluke Hill, near Georgetown, in ragged crystalline masses, in a quartz vein. In El Dorado county, at Spanish Dry Diggings, in large masses of irregular dendritic crystallizations. One mass recently obtained weighed about sixteen pounds, and was purchased by Mr. Dickinson, of New York, for preservation. Calaveras county, a large partly formed crystal with octahedral edges; if perfect would be two inches in diameter. Tuolumne county, flattened, distorted, octahedrons from the Whiskey Hill mine. Mariposa county, octahedrons from the placers near Coulterville, but very rare. At the Princeton mine, rarely, in nests and bunches of octahedrons, with brilliant faces.

Small delicate microscopic prisms of gold have been found in the vicinity of Sonora. They appear to be terminated with crystalline planes at both ends, and probably are elongated octahedrons. (From the collection of Doctor Snell.)

Crystals of spongiform gold, from one-eighth to one-quarter of an inch in diameter, and as light almost as cork, were washed out by Doctor Hill from a claim near Angel's. This is a condition of native gold which, it is believed, has not been hitherto noticed.

In Plumas county, Sherman lode, Light cañon, on coatings of green and blue carbonates of copper, proceeding from the decomposition of variegated copper pyrites or vitreous copper in part. This gold was apparently deposited after the deposition of the carbonate of copper. The specimens are beautiful. (Cabinet of Mr. Waters, Sacramento.) Mariposa county, in a narrow vein of calcite or dolomite, two inches wide, cutting slates; precise locality not known. The

gold was in coarse masses and strings in the middle of the vein. Amador county, near Drytown, in a vein of pearl spar, which is very pure and white, and without admixture with quartz or pyrites. The gold is in coarse masses in the midst of the pearl spar. (Specimens collected by Mr. James, and presented to the author.)

Gold in small quantities occurs at many places in the Coast mountains, and associated with cinnabar. Some specimens of coarse gold have been found in the cinnabar veins of Colusa county. In Excelsior district gold occurs with molybdenite. In San Bernardino county, at the Armagosa mine, in feldspar and in calc spar, in a granitic rock, associated also with arsenolite.

Many large masses of gold have been taken from the placers of California at various times, of which no authentic record or description has been kept. In 1864 a large mass, one hundred and eighty seven ounces, (fifteen and seven-twelfths pounds,) was taken from the middle fork of the American river, about two miles from Michigan bluffs, Placer county.

The Carson Hill quartz claim, in Calaveras county, is celebrated for the size and weight of the masses of gold taken from it, some of which weighed six and seven pounds. (For further observations upon gold, its geology and distribution, see an article at the end.)

Gold and tellurium.—(See *Tellurium*.)

Gray copper ore.—With gold in the Pine Tree mine, Mariposa grant, and similarly at the Iona Company's claim, and others upon the same belt near Coulterville. (See *Tetrahedrite*.)

Graphite.—About twenty miles above the Big Tree Grove, in crystalline scales; also at the mine of the Eureka Plumbago Company, (locality not known.)

Gypsum—Los Angeles county, in the Great Basin, near the entrance to the Soledad or "New Pass." San Diego county, along the banks of Carizzo creek, and on the slope of the desert. Tulare county, at the vein of stibnite, in crystals. Nevada county, near the Truckee Pass, in beautiful stellar radiations, from one-half of an inch to three inches in diameter. (Cabinet of C. W. Smith, Grass valley.)

Hematite, (specular iron ore.)—This is a very abundant ore in California, and Arizona, on the Colorado river, near Williams's Fork. Some of the dry arroyos or cañons in that region are crowded with blocks of the pure ore, from one to two feet in diameter. It is broken from beds and seams in an impure metamorphic limestone. The structure is granular, passing into micaceous, and freshly broken surfaces are extremely brilliant. Specimens of similar ore were brought in by Jules Marcou, in eighteen hundred and fifty-three, from the valley of Williams's Fork, further north. This ore occurs also in Humboldt valley, and abundantly on the coast of Mexico, south of Acapulco.

Hessite.—El Dorado county. (See *Telluret of silver*.)

Hornblende.—At San Pablo. At Soledad, in sienite. At Vallecito, near Murphy's.

Hyalite.—Associated with semi-opal, in the Mount Diablo range, about thirty miles south of Mount Diablo. (In cabinet of J. B. Meader, Stockton.)

Idocrase.—Siegel lode, El Dorado county. (?)

Iodide of mercury.—Santa Barbara county. (?)

Ilmenite—El Dorado county, near Georgetown, from the gold washings; a very fine crystal, about an inch in diameter, with brilliant planes.

Iron ores.—(See *Magnetite* and *Hematite*.)

Iridosmine.—With platinum and gold in the beach sands of the northern counties. An analysis by C. Kurlbaum, jr., in Dr. Genth's laboratory, of a sample of the residue from gold washing and amalgamation obtained by the author in eighteen hundred and fifty-four, gave 48.77 per cent. of iridosmine. Found also as a residue in melting large lots of placer dust.

Iron pyrites.—Found in most of the gold-bearing quartz veins, either crystal-

line or massive; usually from one to five per cent. of the whole weight of the ore. The value for gold varies greatly. At Grass valley the concentrated sulphurets are worth from one hundred dollars to three hundred dollars per ton. Cabinet specimens of this mineral may be had in very large crystals, cubes, at the Fairmount claim, three miles from Pilot Hill, Eldorado county. It is there associated with garnets, brown spar, and specular iron. Found in brilliant druses lining fissures in the rocks of the E Pluribus Unum tunnel, three miles from Murphy's, Calaveras county. In brilliant but small cubical crystals in the gold ore of the Mameluke claim, near Georgetown, Eldorado county. Mariposa county, in large and perfect crystals in the slates near the Deville mine, south of Princeton Hill. Placer county, in large crystals, near the Grizzly Bear House, between Auburn and Forest Hill.

Jasper.—Very fine masses of brown and yellow jasper are abundant near Murphy's, Calaveras county, in the quartz veins, and in the debris from them.

Kerargyrite.—(See *Chloride of silver*.)

Lignite.—San Francisco county, Contra Costa county, Monterey county; in Amador county, in thick beds at the base of the Sierra Nevada; used in Ione City for steam boilers; Santa Barbara county, Humboldt county, along the Eel river; Klamath county, at Gold Bluff, four hundred feet below the surface. (Lieutenant Tuttle, U. S. army.) Del Norte county, at Point St. George. (Professor Sherman Day.) In Nevada, Washoe county, along the Truckee river; in Lyon county, at the "Whitman mines."

Limonite.—Mariposa county, at Burns's creek, near the old road to Fort Miller, in a heavy outcrop of quartz; solid blocks of limonite, from two to four feet thick, are found there. (See Geol. Rec. Cal., p. 290.) Oregon, sixteen miles from Portland, in an extensive bed; specimens were sent by Governor Gibbs to the Mechanics' Fair exhibition in 1864.

Macie.—Mariposa county. (See *Andalucite*.)

Magnesite, (*carbonate of magnesia*.)—Tulare county, near Visalia, between Four creeks and Moore's creek, in the foothills, in solid beds of pure white, massive carbonate of magnesia, hard, fine grained, and like unglazed porcelain in texture. The beds are from one to six feet thick, and are interstratified with talcose slates and serpentine. Similar beds are described to me as existing in the Diablo range. Alameda county, about thirty miles south of the mountain. Mariposa county and Tuolumne county: a heavy bed of magnesian rock, chiefly magnesite, charged with crystals of iron pyrites, accompanies the chief gold-bearing quartz vein of those counties. This rock is charged also with nickel and chrome talc in green films, like the magnesite of Canada.

Magnetite.—In large beds, massive, and of superior quality, in Sierra county; also in octahedral crystals, forming beautiful cabinet specimens. In Plumas county, near the line, fine groups of octahedrons associated with garnet (?) and epidote. (?) Mariposa county just east of the Mariposa estate, on the trail to Yosemite. Placer county, at Utt's ranch, six miles from Auburn. At the Cañada de las Uvas, Los Angeles county, in a vein about three feet thick, in limestone; in the sienitic granite of the mountains between the Great Basin and Los Angeles; seen in drift fragments in the valley of Soledad, or "Williamson's Pass." Elderado county, at Volcanoville, on the middle fork of the American river, near the great quartz vein. This locality was noted by the writer in eighteen hundred and fifty-three. This ore is, perhaps, titaniferous, but specimens are not at hand for examination. Trinity county, near Weaverville, in small veins. (Trask, 3d report, 1865, p. 56.) Nevada county, three miles from Grass valley. Eldorado county, fine octahedral crystals, in slate, near the Boston copper mine; in small brilliant crystals, with quartz, pyrites, and calc spar; at the El Dorado Excelsior copper claim.

Malachite, (*green carbonate of copper*.)—In remarkably fine specimens,

associated with crystalline blue carbonate, at Hughes's mine, Calaveras county, (1861.)

Manganese, oxide.—(See *Pyrolusite*.)

Manganese, carbonate of.—(See *Dialogite*.)

Mercury.—Native quicksilver is found in Napa (?) county, near the Geysers, at the Pioneer claim, in a silicious rock.

(For sulphuret of mercury, see *Cinnabar*.)

Mercury, iodide of.—Santa Barbara county, (Mr. G. E. Moore.)

Mispickel.—Grass valley, Nevada county, at Betsey mine, with gold. This mineral is a common associate of gold in the quartz of the State. Crystals of mispickel are sometimes penetrated with gold.

Molybdate of lead.—State of Nevada, Comstock lode, in the upper part of the California mine, in the "rusty lode," in small yellow crystals; in good crystals in the ——— (?) mine, Weaver district, Arizona.

Molybdenite.—Occurs in fine specimens at several localities in the gold region; Nevada county, at the Excelsior mine, Excelsior district, abundantly with gold.

Mountain cork.—Tuolumne county.

Nickel.—(See *Emerald nickel*.)

Orthoclase.—San Diego county, in granite veins along the road between Santa Isabel and San Pasquale, associated with tourmalines and garnet. Fresno county, at Fort Miller, in coarse-grained granite, under the edge of the lava plateau.

Opal—semi opal.—A white milky variety of opal is found in Calaveras county, at Mokelumne Hill, or on the hill near that place, known as Stockton Hill, on the west side of Chile gulch. A shaft has been sunk there three hundred and forty-five feet, and the opals are found in a thin stratum of red gravel. They vary in size from a kernel of corn to the size of walnuts. Many of them contain dendritic infiltrations of manganese oxide, looking like moss. About a bushel of these stones are raised in one day, and are said to have a market value. A white milky variety, similar to the above, and without "fire," is found with magnesite in Mount Diablo range, thirty miles south of the mountain; also in the foot-hills of the Sierra Nevada, at the Four Creeks.

Pearl Spar.—(See *Dolomite*.)

Petroleum.—Abundantly distributed throughout the coast counties from San Diego in the south to Crescent City in the north. The purest and most limpid natural oils have thus far been obtained from the localities north of San Francisco, in Humboldt and Colusa counties. These oils are green by reflected light, and resemble the best samples from Pennsylvania. No abundantly flowing wells have yet been found. In Humboldt county there are many springs, giving both oil and gas, and numerous wells are in progress. So also in Colusa county, at Bear valley, about twenty-five miles west of Colusa, several springs, giving a fine quality of lubricating oil and much gas; also at Antelope district, nineteen miles west of Colusa. In Contra Costa county, ten miles from Oakland, there are petroleum springs, and a very superior oil has been obtained from the region of Mount Diablo. In Tulare county there is an extensive region where oil and gas springs abound. The localities are numerous in the counties of San Luis Obispo, Santa Barbara, Tulare, and Los Angeles.

Platina.—With iridium and iridosmine, on the coast at Cape Blanco, southern Oregon. Analysis of a sample of the mixed metals from Port Orford, in eighteen hundred and fifty-four, gave forty-three and fifty-four one-hundredths per cent. of platina.

Proustite, (light red silver ore).—In the veins about Austin, Lander county, Nevada. At the Daney mine, and occasionally in the ore of the Comstock lode.

Pyrrargyrite, (dark red silver ore).—(See *Ruby silver*.)

Pyrolusite.—Red Island, Bay of San Francisco, in vein or bed 3' to 4' wide, in the metamorphic jaspery shales—the “prasoid” rocks. This is a remarkably pure ore of manganese, and has been extensively mined for shipment.

Pyrophyllite occurs in the gold region; locality not known.

Pyroxene.—In fine crystals, dark green, near Mud springs, Eldorado county.

Pyromorphite, (phosphate of lead.)—In Nevada, in the outcrops of the Comstock lode, especially the back ledges of the Ophir ground, giving green coats and crusts on the surface of the quartz.

Pyrrhotine, (magnetic pyrites.)—Mariposa county, at the Iona Copper Company's tunnel, north side of the Merced river, on the trail from Bear valley to Coulterville.

Quartz.—This abundant mineral is obtained in fine crystals in the quartz veins in various parts of the State, and in the mines of Washoe. Some large and well-formed crystals, from three to four inches or more in diameter, have been found at Red Hill, in Placer county, (cabinet of C. W. Smith, Grass valley,) and in the placer claims in the vicinity of Placerville, where, also, a fine large crystal of smoky quartz was found. Mariposa county, on Whitlock's and Shirlock's creeks, in the quartz veins, in fine groups of crystals; also at the Mariposa mine, and in the eastern parts of the Princeton vein. Calaveras county, at the Noble claim, on Domingo creek. Nevada county, in the Grass Valley mines, often supporting gold between the crystals, and at the “French lode,” (Eureka?) crystals of a light greenish tinge, like that of datholite.

Red oxide of copper occurs sparingly in thin crusts and sheets with the surface ores of the principal copper mines in Calaveras county, especially the Union and Keystone. In Mariposa county, at La Victoire mine, with green and blue carbonates of copper. Del Norte county, at the Evoca, Alta, and other mines, in very good cabinet specimens, the cavities being lined with crystals. In Plumas county, and in the upper parts of most of the copper veins of the State. Arizona, at the Arizona Copper-Mining Company's claim, near the Gila river, in large masses, with native copper and thin crusts of green carbonate. At the claim known as No. 15, Yavapais district, with native copper.

Ruby silver, (pyrargyrite.)—This beautiful ore of silver was first discovered in the Daney mine, Washoe, by the writer, in eighteen hundred and sixty-one, and has since been found sparingly in the Ophir and the Gould & Curry. In the latter mine some very fine specimens were obtained by Mr. Strong, and are deposited in the cabinet of the company, at the office in Virginia City. This ore is abundant in the veins about Austin, Reese river, and is often so thoroughly spread through the quartz of the gangue as to give it a decided reddish color. It is generally associated with sulphuret of silver. No good crystals have yet been found.

Salt—rock salt.—Abundant in the dry season as an incrustation throughout California. Found in large quantities in Nevada, in the beds of desiccated lakes at numerous places. About twelve miles north of Armagosa mine, in large masses. In the Wasatch mountains, southeast of Lake Timpanogos, on the headwaters of a small creek tributary to Utah lake, in thick strata of red clay. (Frémont's Geog. Mem., 67.) This is said to be the same locality mentioned by Father Escalante in his journal, and noted by Humboldt on his map as “*Montagnes de Sel Gemme*.” Salt crystallizes from the spray of the waters of the Great Salt Lake, and is found abundantly on its shores, and on twigs and shrubs. The Great Salt Lake is a saturated solution of common salt. The shores in the dry season are incrustated with salt, and shallow arms of the lake present beds of salt for miles. Plants and shrubs are incrustated to a thickness of an inch or more with crystallized salt deposited by the spray. Five gallons of the water taken in the month of September, and evaporated by Colonel Fré-

mont over a fire, gave fourteen pints of salt, which analysis showed to have the following proportions (Frémont's Memoir, 9 :)

Chloride of sodium.....	97.80
Chloride of calcium	0.61
Chloride of magnesium.....	0.24
Sulphate of soda.....	0.23
Sulphate of lime.....	1.12

Schorl, (see *Tourmaline*.)—*Selenite*.—In beautiful stellar crystallizations on the crossing of the Little Truckee, Henness Pass road. The blades composing these aggregates are from half an inch to two inches in length, and from one-eighth to one-quarter of an inch in width. They are perfectly clear, and most of them hemitroped so as to form arrow-headed crystals. (Cabinet of C. W. Smith.)

Selenid of mercury—In large masses from the vicinity of Clear lake.

Silver, native.—This metal, in its native state, is rare in the State of California. At Silver Mountain district (formerly Eldorado county) it occurs in the decomposed surface ores. Los Angeles county, in the decomposed parts of the Maris vein, Soledad, covering surfaces of syenite. Sonora, at the celebrated Planchas de la Plata, just south of the Arizona line, and near the meridian of Tubac. According to the best Mexican and Jesuit authorities, large masses of native silver were discovered there in 1769. One mass is reported to have weighed three thousand six hundred pounds. No vein has been found; the deposit is a placer. (Pumpelly.) Nevada—Story county, in the Comstock lode, in filaments, and matted, hairy masses—"wire silver," usually closely associated with silver glance and stephanite. At the Burning Moscow claim (Ophir) some large masses of ore were taken out in 1864 completely charged with the metal. Occurs also at the Daney mine, with native gold and sulphuret of silver. Lander county, in the veins about Austin, associated with the surface ores, such as the chloride and bromide of silver, and green and blue carbonates of copper. Idaho Territory, in large masses at the "Poor Man's lode," or "Candle-box mine," where it was said the lumps of silver were as large as candle boxes. That a great quantity of large masses of the metal was taken out there is no doubt. It is common in the silver lodes of the Owyhee, and is usually very filamentous and finely divided and embedded in granular quartz.

Silver, (telluret of).—A single specimen was obtained by the author in 1854, near Georgetown, in Eldorado county. It had been washed out from the gold drift, and the parent vein has never been found.—(Rep. Geol. Rec. Cal., 302.)

Smoky quartz.—A large crystal about six inches in diameter, from Placer county, and in the cabinet of Dr. White, Placerville.

Sphene.—In small hair-brown crystals in the granite of the Sierra Nevada.

Stephanite, (brittle sulphuret of silver).—Very fine crystals of stephanite were obtained from the Ophir and Mexican mines, Nevada, soon after they were opened. These crystals were from half an inch to two inches in length, but were generally imperfectly formed. They greatly resemble the crystallizations of vitreous copper from the Bristol mine in Connecticut. A large collection of these was made by R. L. Ogden in 1859 and 1860, and were noticed by the writer in the Mining Magazine. They are now more rare, but have been found in nearly all the principal claims upon the Comstock lode. Some very good specimens were taken from the Gould & Curry, preserved in the cabinet by C. L. Strong, in 1864. They are frequently implanted among quartz crystals in nests or geodes, and are covered with a hairy growth of wire silver.

Crystals of silver ore from Silver Mountain district are probably this species.

Stibnite.—Tulare county, in a large vein near the Pass of San Améδιο

(vide Rep. Geol. Rec. Cal., pp. 292-3.) It occurs in large, solid masses, boulders of which are numerous in the beds of the arroyos leading from the vein. In Nevada, at or near the Gem mine, Dunglen; at the Sheba mine, in beautiful needle-like crystals, and at the De Soto and other mines in that vicinity; in Russ district, Great Basin.

Stroymeyerite.—Arizona Heintzelman mine.

Sulphur.—Colusa county; Napa county, at the Geysers. In Nevada, in extinct solfataras, Humboldt valley.

Sulphuret of silver—Nevada, Comstock lode; occurs with stephanite in the Ophir, Mexican, Gould & Curry, and other mines upon that line of claims. It is also present in the ore of the vein at Gold Hill, and appears to be the chief source of the silver in those ores. It has not been observed in crystals. In the large chamber of the Ophir mine, in eighteen hundred and sixty-one, it was very abundant, in irregular masses ramifying through the fragmentary white quartz so as to hold it together in hand specimens. Large masses of vein-stuff could be broken down, in which the sulphuret of silver constituted at least half of the whole weight. Native gold was commonly associated with it in that part of the mine. It is now more frequently found associated with copper pyrites and galena. This species is also found in small crystals in the ore of the Daney mine, associated with native silver, gold, and ruby silver. It is common in the ores of Reese river, associated with ruby silver and manganese spar. It is probably the chief ore of silver in the Cortez district.

Sulphuret of iron—(See *Iron pyrites*.)

Telluret of silver.—El Dorado county. (See *Silver*.)

Tetrahedrite, (*gray copper*).—Mariposa county, with the gold in the Pine Tree vein; also with the gold in the same or similar vein at the Crown lode, Emily Peak, and at Coulterville in several claims. Calaveras county, at Carson Hill, in the large vein, and associated with gold. This ore, in decomposing, leaves a blue stain of carbonate in the quartz, and where it is found the rock is generally rich in gold. In Nevada it occurs abundantly in the Sheba mine, Humboldt county, massive and rich in silver. It is associated with the following species, which were noted from time to time by Mr. Moss, the superintendent, and in part by the author: Ruby silver, argentiferous galena, antimonial galena, iron pyrites, blende, cerusite, calcite, quartz with acicular antimony, sulphuret of antimony in delicate needles and massive native silver, bournouite. Found also in Lander county, with the silver ores of the veins near Austin; at the Comet lode, Veatch cañon, south of Austin. Los Angeles county—at the Zapata claim, San Gabriel mountains. Arizona—at the Heintzelman mine, containing from one to one and a half per cent. of silver. (Pumpelly.) Also, at the Santa Rita mine, associated with galena.

Tellurium and gold, (*tetradymite?*)—At the Melones and Stanislaus mines, one mile south of Carson Hill, Calaveras county. Very beautiful specimens of native gold, associated with tellurium, were taken out of a vein from six to eighteen inches thick, and at a depth of two hundred feet from the surface. This telluret has a tin-white color, and is not foliated like the tetradymite from the Field vein in Georgia. Its exact specific character is not yet determined.

Tin ore, (*oxyd of tin*).—(See *Cassiterite*.)

Topaz.—In clear, colorless crystals, finely terminated, from one-eighth of an inch to half an inch in diameter, found in the tin washings of Durango, Mexico. (Cabinet of the author, 1864.) Noticed by C. F. Chandler, American Journal of Science, 1865.

Tourmaline.—San Diego county, north side of the valley of San Felipe, in feldspathic veins, (for description and figures see Rep. Geol. Rec. Cal., Blake, p. 304;) Tuolumne county.

Tremolite.—White and fibrous in limestone, Columbia, Tuolumne county.

Tungstate of manganese.—With tungstate of lime, in the Mammoth mining district, Nevada. (C. T. Jackson, Proc. Cal. Acad., iii, 199.)

Variegated copper ore, ("Horseflesh ore.")—Sigel lode, in Plumas county.

Vitreous copper.—(See *Copper Glance*.)

Zinc.—(See *Blende*.)

Principal public and private mineralogical and geological collections in California, known to the author.

I.—PUBLIC COLLECTIONS.

STATE GEOLOGICAL COLLECTION—Sacramento and San Francisco; not arranged, and in part destroyed by fire in eighteen hundred and sixty-five, at the Pacific warehouse.

STATE AGRICULTURAL SOCIETY'S—At Sacramento; partly in cases, but not classified or arranged.

SAN JOAQUIN AGRICULTURAL SOCIETY—At Stockton; collected chiefly by Dr. Holden; not large, nor well arranged.

CALIFORNIA ACADEMY OF NATURAL SCIENCES—At San Francisco; not arranged; in boxes, and stored, awaiting a suitable room or building for their display. This collection was made in great part by and through the exertions of Dr. J. G. Trask, and has many valuable specimens taken from our mines soon after their discovery.

COLLEGE OF CALIFORNIA—At Oakland. A collection of minerals and fossils of California; partly arranged.

SANTA CLARA COLLEGE. (No particulars known.)

ODD FELLOWS' LIBRARY ASSOCIATION—At San Francisco. A valuable miscellaneous collection of minerals, ores, fossils, and curiosities, chiefly the donation of the members of the Order; arranged in cases, at the Hall. The Order is indebted, chiefly, for this valuable addition to their rooms, to the zeal and enthusiasm of their president, S. H. Parker, esq.

OCCIDENTAL HOTEL—Lewis Leland, San Francisco. A collection containing many very choice and valuable specimens of ores and precious metals of the Pacific coast.

II.—PRIVATE COLLECTIONS.

W. P. BLAKE—At San Francisco and Oakland. A collection of minerals, ores, geological specimens, and fossils, from California, Nevada, Arizona, Idaho, Mexico, the eastern States, Japan, and China, with some European minerals. About sixty boxes of this collection were destroyed in the Pacific warehouse, by fire, in eighteen hundred and sixty-five. A portion, stored at the college and elsewhere, was uninjured. It is now partly in boxes, and partly in cases, in San Francisco, and at the College of California, Oakland. There are probably five thousand to six thousand specimens, a great part of them selected by the owner at the localities. It contains a valuable and extensive suit of crystalline gold.

Dr. J. M. FREY—Sacramento. A large and valuable miscellaneous collection of Pacific coast minerals, including a fine suit of gold in crystals. Arranged in part, in cases, in Sacramento.

Dr. JOHN HEWSTON, Jr.—San Francisco. Miscellaneous collection.

Dr. JONES—Murphy's, Calaveras county. A miscellaneous collection, chiefly local.

A. P. MOLITOR—San Francisco. Miscellaneous collection.

R. L. OGDEN—San Francisco. A miscellaneous collection of copper and gold ores. A large collection made by this gentleman up to eighteen hundred and sixty-one, was purchased by W. P. Blake, in eighteen hundred and sixty-one.

AUGUSTE RÉMOND—San Francisco (No particulars known.)

Dr. SNELL—Sonora, Tuolumne county. A rich and valuable collection of fossils and aboriginal relics from the auriferous gravel under Table mountain, and of minerals and ores from that region. This is the richest collection of relics of the mastodon and the mammoth in California.

T. J. SPEAR—San Francisco; formerly at Georgetown, in eighteen hundred and sixty-two and three. A small miscellaneous collection, which included an ammonite, from the gold slates of the American river; valuable to science as one of the evidences of the secondary age of the gold-bearing rocks of California.

Dr. STOUT—San Francisco. A miscellaneous collection of Eastern and European specimens, arranged in cases.

C. W. SMITH—Grass valley, Nevada county. An interesting collection, arranged in cases, and containing some choice specimens from the mines of Grass valley.

Dr. WHITE—Placerville, El Dorado county. A miscellaneous collection, containing many interesting specimens from that region, and some foreign minerals, by exchange.

W. R. WATERS—Sacramento. Miscellaneous collection of minerals and ores, arranged in case.

Notes on the geographical distribution and geology of the precious metals and valuable minerals on the Pacific slope of the United States.

If we attempt to delineate by colors upon a map the geographical distribution of the gold, silver, copper, and quicksilver localities of the Pacific slope, we obtain a series of nearly parallel belts or zones, following the general course or trend of the mountain chains and of the coast. So, also, if we enter the Golden Gate and travel eastward across the country to the Rocky mountains, we pass successively through zones or belts of country characterized mineralogically by different metals and minerals.

In the Coast mountains, for example, quicksilver is the chief, and the highly characteristic economical mineral. The localities of its ore are strung along the mountains through the counties north and south of the Golden Gate. We have also petroleum, sulphur, and calcareous springs, nearly coincident in their distribution. Passing from this grouping of minerals eastward over the coal beds of Mount Diablo, and crossing the great interior valley of California, (probably underlaid by lignite,) we rise upon the slope of the Sierra Nevada, and reach the copper-producing rocks. These form a well marked zone, which has been traced almost uninterruptedly from Mariposa to Oregon, following the lower hills of the Sierra Nevada.

East of the copper belt, (and in the central counties, over a chain of hills known as "Bear mountains,") we find the great gold-bearing zone, characterized by lines of quartz ledges, following the mountains in their general northwesterly and southeasterly course. This gold belt is composite in its character—the veins traversing either slates, limestones, sandstones, or granite.

Crossing the snow-covered crest of the Sierra, where in some parts iron ores have been found, we leave the region of gold and enter that of silver, mingled with gold, extending up and down the interior eastern slope of the Sierra throughout California, into Arizona and Mexico on the south, and Idaho on the north.

At the Reese River mountains, further east, towards Salt Lake, the gold is replaced by silver, associated with copper, antimony, and arsenic; and this grouping is in its turn replaced by the gold-bearing sulphurets of the Rocky mountains. This is the *general* distribution of the precious metals. There are, doubtless, local exceptions.

It is evident that this distribution of the metals and minerals in zones has been determined by the nature of the rocky strata, and by their condition of

metamorphism. It is worthy of note that the minerals of the coast ranges are chiefly the more volatile and soluble, such as cinnabar, sulphur, petroleum, and borax, distributed in rocks ranging from the tertiary to the cretaceous, inclusive.

The longitudinal extension of the gold-bearing zone is yet undetermined. The metal has been traced through the whole length of California, through Oregon and Washington, into British Columbia, and beyond, along the Russian possessions, towards the Arctic sea. Southward, it is prolonged into Sonora and Mexico, and there is every reason to believe that its extension is coincident with the great mountain chain of North America in its course around the globe, into and through Asia.

After years of laborious search for fossils by which the age of the gold-bearing rocks might be determined, I had the pleasure, early in 1863, to obtain a specimen containing *Ammonites* from a locality on the American river, preserved in the cabinet of Mr. Spear. This fossil was of extreme importance, being indicative of the secondary age of the gold-bearing slates, and was therefore photographed, and copies of it sent to the Smithsonian Institution at Washington, for description. It was subsequently noticed in the proceedings of the California Academy of Natural Sciences, September, 1864. The same year, when at Bear valley, Mariposa county, upon the chief gold-bearing rocks of California, I identified a group of secondary fossils from the slates contiguous to the Pine Tree vein, and noticed them at a meeting of the California Academy, October 3, 1864, announcing the jurassic or cretaceous age of these slates. The best characterized fossil was a *Plagiostoma*, (or *Lima*,) to which I provisionally attached the name *Erringtoni*.* The attention of the geological survey having been directed to this locality by my announcement and exhibition of the fossils in San Francisco and at the academy, Mr. Gabb, the palæontologist of the survey, visited the locality and obtained specimens. These fossils were of such interest and importance to science, and to the geological description of the State, that an extra plate was engraved for them and published in the appendix to the volume on the geology, recently issued.†

Fossils of the secondary age from Genesee valley, in the northern part of the State, were common in collections in 1864, and are described by the State Geological Survey, volume one, "Palæontology." It appears also, from the same source, that Mr. King, a gentleman connected with the survey, had obtained *belemites* from the Mariposa rocks in 1864, but no figures or description are given.

We may thus regard the secondary age of a part, at least, of the gold-bearing rocks of the Sierra Nevada as established, a result of no small importance practically, for it destroys the dogma, which has been very generally accepted, that the Silurian or Palæozoic rocks are the repositories of the gold of the globe. We may now look for gold in regions where before it was generally presumed to be absent, because the formations were not Silurian or Palæozoic.

The Silurian age of the gold rocks of California has not always been assumed. It has been repeatedly questioned. In the preface to the writer's "Report of a Geological Reconnaissance in California," it is stated that a considerable part of the gold-bearing slates of California are probably carboniferous. The absence of all evidence of Silurian fossils west of the Rocky mountains is also distinctly noted. (p. 276.) The opinion of the comparatively modern age of the gold

* In honor of Miss Errington, a lady residing on the estate, who drew my attention to some impressions on the slates which she had picked up on the English trail, which proved to be fossils.

† I regret to observe that in this publication, as well as in Mr. Gabb's notice of the fossils, no mention is made of my previous announcement, and that my part in the discovery and publication of the secondary age of the Mariposa gold rocks is studiously and wholly ignored.

rocks has been steadily gaining strength and support for years past, and has been the subject of discussion in the daily journals.

The prevalence of gold in the Coast mountains, in or in close proximity to rocks of *tertiary* age, leads us to question whether it may not occur in the rocks of this late period also. The fact, recently ascertained, that gold is very generally associated with cinnabar, makes it more than probable that the metal has been deposited in formations as recent even as the Miocene, (or middle tertiary,) for, according to the best evidence we now have, this is the age of a part, at least, of the quicksilver-bearing rocks.

Such a result need not surprise us, although so far in opposition to generally existing views of the geological association of gold. The geological age of the rocks has manifestly nothing to do with the deposition of gold; it is only necessary that the rocks should have a favorable mineral composition and a suitable degree of metamorphism. On this general view, we may be prepared to find gold in rocks of any geological period, from the tertiary to the Laurentian or Huronian rocks, inclusive.

The lithology of the chief gold-bearing zone or belt of rocks of California is interesting. The chief or "mother vein" extends through several counties, with occasional breaks or interruptions; and throughout its course preserves its distinguishing characters. It follows also the same geological horizon or zone, keeping between well-marked geological and geographical boundaries, so that a description of the strata adjoining it at one place will serve to give a general view of them throughout. A cross-section in considerable detail was made on the Mariposa estate in eighteen hundred and sixty-four. This estate includes the southern end of the "Great Vein," there known as the "Pine Tree." It also includes several veins lying west of the line of the Pine Tree, of which the most important is the "Princeton," noted for its richness and large production of gold. This group of veins follows a long valley between two high ridges—Bear Mountain on the west, and Mount Bullion on the east. Those ridges are formed of hard rocks; the rocks of the valley are argillaceous and sandy slates and sandstones. The stratification of these slates is remarkably regular and distinct; their thin outcrops standing sharply out at intervals in long lines in the ravines and on the hillsides, mark their trend, and show that they are nearly vertical, or have a slight inclination northeast or easterly. The general direction of the outcrops and of the valley is northwest and southeast; but there are several local variations.

These slates are generally light colored or drab at the surface; but in depth they are black, like roofing slate, and break up into rhomboids. This is particularly well shown at the Princeton vein. There are numerous intercalations of sandy layers passing into sandstones—sometimes into coarse grits, and even pebbly beds, and beds of slaty conglomerate. The softer and most finely laminated portion of the group is generally found near the medial line of the valley, and is the point at which the Princeton vein occurs. It is near this part of the series, at the northern end of the estate, that the jurassic fossils occur.

The following is an approximate geological section of the estate, at right angles to the course of the rocks, and nearly over the Princeton vein. It is a composite section, being made up of three distinct portions where the observations had extended, but all near together, so as to present a fair view of the sequence of the formations. The whole embraces a distance of about four miles, according to the scale of the small published map of the estate. The southwestern end is taken along Bear creek, the middle portion across the Princeton vein, and the remainder on a line near Upper Agua Fria, northeasterly to Bullion ridge. The following is the sequence of formations from west to east:

SECTION ACROSS THE MARIPOSAS.

1. Coarse, heavy conglomerates, metamorphosed—Bear mountains.
2. Compact crystalline slates; crystalline cleavage.
3. Conglomerate; slaty.
4. Argillaceous slates, regularly stratified; thick series.
5. Sandstone and sandy beds, (thin.)
6. Princeton gold vein; quartz three feet thick.
7. Argillaceous slates and quartz veins; the horizon of the jurassic fossils.
8. Magnesian rock and quartz veins.
9. Pine Tree, or "Mother Vein," or its extension.
10. Argillaceous slates.
11. Conglomerate; slaty.
12. Compact slates.
13. Greenstone, limited in extent; probably a metamorphosed sandstone.
14. Sandstones and sandy slates.
15. Serpentine and magnesian rocks—the northern extension of Buckeye ridge.
16. Compact slates, crystalline and much metamorphosed.
17. Conglomerates and sandstones, heavy and massive; the so-called "greenstone" of Mount Bullion range.

This is the general outline of the formations. Both of the bounding ranges of the valley are formed by the heavy metamorphic conglomerates, so much altered and changed as to be scarcely recognizable. They are generally supposed to be formed of greenstone, and in some places they do not give any evidence of their sedimentary origin; in others, the outlines of the pebbles and boulders are distinct. These boulders are remarkably large and heavy. From the general similarity of the rocks of these two ranges—Bear mountain on the west, and Bullion range on the east—together with the succession and character of the formations between, I am led to regard the whole series as a fold or plication, and the valley as either synclinal or anticlinal—probably the former.*

Bear Mountain range is prolonged far to the north into Calaveras county, and there forms the separation between the valley of Copperopolis, traversed by the Reed or Union copper lode, and the gold quartz region of Angel's camp and Carson Hill. The whole belt of formations from Amador county, southeastward, through Calaveras, Tuolumne, and Mariposa counties, is an interesting field for a geologist to work up, to show not only the geographical extent of the rocks and the veins, but the structure or folding of the whole. The two lines of hard conglomerate forming the high ridges are distinct for nearly the whole distance. The serpentine rocks which accompany the gold formation are probably the result of local metamorphic action, for they often occur in lenticular or elipsoidal patches in the other rocks. So also the greenstone, in places, appears to be an altered portion of rocks, which at other points are distinctly sedimentary, and exhibit slaty stratification.

* The above section of the gold formation of the estate, and the substance of the observations upon it, were given in a report to F. L. Olmsted, esq., in eighteen hundred and sixty-four. Inedited.

SECTION 10.

LAWS AND CUSTOMS OF FOREIGN GOVERNMENTS IN RELATION TO THE
OCCUPANCY OF MINERAL LANDS AND THE WORKING OF MINES.

1. The crown right.—2. Permanent titles to the mineral lands of the United States.

1.—THE CROWN RIGHT.

[Compiled from references in the New Almaden case.]

By the civil law all veins and mineral deposits of gold and silver ore, or of precious stones, belonged, if in public ground, to the sovereign, and were part of his patrimony; but if on private property, they belonged to the owner of the land, subject to the condition that if worked by the owner he was bound to render a tenth part of the produce to the prince, as a right attaching to his crown; and that, if worked by any other person by consent of the owner, the former was liable to the payment of two-tenths, one to the prince, and one to the owner of the property. Subsequently it became an established custom in most kingdoms, and was declared by the particular laws and statutes of each, that all veins of the precious metals, and the produce of such veins, should vest in the Crown, and be held to be part of the patrimony of the King or sovereign prince. That this is the case with respect to the empire of Germany, the electorates, France, Portugal, Arragon, and Catalonia appears from the laws of each of those countries, and from the authority of various authors.

And the reason is, that the metals are applicable to the use of the public, who ought not to be prejudiced by any impediments being thrown in the way of the discovering and working of their ores; besides which their products rank, not among those of an ordinary description, but among the most precious the earth affords; and, therefore, instead of being appropriated to individuals, are proper to be set apart for the sovereign himself, whose coffers being thus enriched, he will be enabled to lighten the burdens of the people; all which is set forth at length by the authors above referred to.

This question, as is observed by the great Cardinal de Luca, has not received any general or uniform determination, but is decided by the laws and customs of each particular kingdom or principality; for upon the breaking up of the Roman empire the princes and states which declared themselves independent appropriated to themselves those tracts of ground in which nature had dispensed her more valuable products with more than ordinary liberality, which reserved portions or rights were called rights of the Crown. Among the chief of the valuable products are the metallic ores of the first class—as those of gold, silver, and other metals proper for forming money, which it is essential for sovereigns to be provided with in order to support their warlike armaments by sea or land, to provide for the public necessities, and to maintain the good government of their dominions. And such is the course mentioned in the first book of Maccabees to have been pursued by the Romans with regard to the mines of Spain, and such also is the plan adopted by our sovereigns with regard to those of the Indies, some of which they have reserved to themselves, and the remainder they have left to their subjects, charged with the payment of a fifth, tenth, or twentieth part of the produce.

According to the law of England the only mines which are termed royal, and which are the exclusive property of the Crown, are mines of silver and gold; and this property is so peculiarly a branch of the royal prerogative that it has been said that though the King grant lands in which mines are, and all mines in them, yet royal mines will not pass by a general description.

This prerogative is said to have originated in the King's right of coinage, in order to supply him with materials. It may be observed, however, that the

right of coinage in the earlier periods of European society was not always exclusively exercised by the Crown; that the same reason might apply to other metals—as copper and tin—and that in those rude times the prerogative was perhaps as likely to have its origin in the circumstance of those rare and beautiful metals having always been among the most cherished objects of ambition, and which were, therefore, appropriated to the use of the Crown, like the diamonds of India, in order to sustain the splendor and dignity of its rank.

Whatever reason may be assigned for this right of the Crown, and of what ever value the right may be, it has been long decided not only that all the mines of gold and silver within the realm, though in the lands of subjects, belong exclusively to the Crown by prerogative, but that this right is also accompanied with full liberty to dig and carry away the ores, and with all other such incidents thereto as are necessary to be usual for getting them.

This right of entry is disputed by Lord Hardwicke, in a case where there was a grant from the Crown of lands with a reservation of all royal mines, but not of a right of entry. The lord chancellor said he was of opinion that there was by the terms of the grant no such power in the Crown, and that by the royal prerogative of mines the Crown had given no such power, for it would be very prejudicial if the Crown could enter into a subject's lands, or grant a license to work the mines; but that when they were once opened it could restrain the owner of the soil from working them, and could either work them itself or grant a license for others to work them.

In the days of Queen Elizabeth the rights of miners were discussed in a legal controversy, in which some of the ablest men in England participated. Two men, named Howseter and Thurland, went, without permission, upon the lands of the Earl of Northumberland, and commenced digging for copper ore. The earl warned them off. They made complaint to the Queen's attorney general, stating that the ores contained some silver or gold, and he prosecuted the earl for resisting the efforts of these miners in extracting the precious metals from the earth, for the reason that all the gold and silver in the earth within the realm belonged to the Queen and not to the owner of the land. All the justices of England heard the argument and took part in the discussion.

The question principally debated was, whether by the prerogative of the Crown all ores containing silver or gold belonged to the Crown as a part of regalia.

The judges decided that all gold or silver ores belonged to the Crown, whether in private or public lands; that any ores containing neither gold nor silver belonged to the proprietor of the soil; that the King could grant away mines of gold or silver, but not without express words in his patent demonstrating his intention to sever the mines from his royal patrimony.

Some of the reasons upon which the arguments were based were expressed in felicitous though quaint language, and are worthy of being reproduced:

1. "And the reason is that metals are applicable to the use of the public, &c.; * * * besides which, their products rank, not among those of an ordinary description, but among the most precious the earth affords, and, therefore, instead of being appropriated to individuals, are proper to be set apart for the sovereign himself, whose coffers, being thus enriched, &c.

* * * Among the chief of the valuable products are the metallic ores of the first class, as those of gold, silver, and other metals proper for forming money, which it is essential for the sovereign to be provided with in order to support their warlike armaments by sea and land, to provide for the public necessities, and to maintain the good government of their dominions," &c., &c. —(*And. Plowdin*, 315.)

2. "As to the first of these three points Onslow alleged three reasons why the King shall have the mines and ores of gold or silver within the realm in whatever land they are found. The first was in respect to the excellency of the

thing; * * * and the common law, which is founded upon reason, appropriates everything to the person whom it best suits, as common and trivial things to the common people, things of more worth to persons in a higher and superior class, and things most excellent to those persons who excel all others; and because gold and silver are the most excellent things which the soil contains, the law has appropriated them (as in reason it ought) to the person who is most excellent, and that is the King."

3. "For the same reason, he says, it has given him "whales and sturgeons" which are in the sea in England—that is, "in the arms of the sea or water within the land, so that the excellency of the King's person draws to it things of an excellent nature. The second reason was in respect of the necessity of the thing; for the King is the head of the public weal, and the subjects are his members, and the office of the King, to which the law has appointed him, is to preserve his subjects; and their preservation consists in two things, viz: in an army to defend them against hostilities, and in good laws. And an army cannot be had and maintained without treasure, for which reason some authors, in their books, call treasure the sinews of war. * * * And, therefore, as God has created mines within this realm as a natural provision of treasure for the defence of the realm, it is reasonable that he who has the government and care of the people, whom he cannot defend without treasure, should have the treasure wherewith to defend them. The third reason was in respect of its convenience to the subjects in the way of mutual commerce and traffic; but one has need of the things which another has, and they cannot sell or buy together without coin. It belongs to the King only to fix the value of coin, and to ascertain the price of the quantity, and to put the print upon it; for if he (a subject) makes coin, it was high treason by the common law."

Act of Congress for the occupation and sale of the mineral lands of the United States.

In the annual report of the Secretary of the Treasury for the year 1865, the substitution of an absolute title in fee for the indefinite possessory rights or claims under which the mines were held by private parties was earnestly recommended.

The following extracts from the Secretary's report embody the main considerations by which Congress was governed in the passage of the act approved August, 1866:

"The attention of Congress is again called to the importance of early and definite action upon the subject of our mineral lands, in which subject are involved questions not only of revenue, but social questions of a most interesting character.

"Copartnership relations between the government and miners will hardly be proposed, and a system of leasehold, (if it were within the constitutional authority of Congress to adopt it, and if it were consistent with the character and genius of our people,) after the lessons which have been taught of its practical results in the lead and copper districts, cannot of course be recommended.

"After giving the subject as much examination as the constant pressure of official duties would permit, the Secretary has come to the conclusion that the best policy to be pursued with regard to these lands is the one which shall substitute an absolute title in fee for the indefinite possessory rights or claims now asserted by miners.

"The right to obtain a 'fee simple in the soil' would invite to the mineral districts men of character and enterprise; by creating homes, (which will not be found where title to property cannot be secured,) it would give permanency

to the settlements, and, by the stimulus which ownership always produces, it would result in a thorough and regular development of the mines.

"A bill for the subdivision and sale of the gold and silver lands of the United States was under consideration by the last Congress, to which attention is respectfully called. If the enactment of this bill should not be deemed expedient, and no satisfactory substitute can be reported for the sale of these lands to the highest bidder, on account of the possessory claims of miners, it will then be important that the policy of extending the principle of pre-emption to the mineral districts be considered. It is not material, perhaps, how the end shall be attained, but there can be no question that it is of the highest importance, in a financial and social point of view, that ownership of these lands, in limited quantities to each purchaser, should be within the reach of the people of the United States who may desire to explore and develop them.

"In this connection it may be advisable for Congress to consider whether the prosperity of the treasure-producing districts would not be increased, and the convenience of miners greatly promoted, by the establishment of an assay office in every mining district from which an annual production of gold and silver amounting to ten millions of dollars is actually obtained."

Mr. CONNES, chairman of the Committee on Mines and Mining of the Senate, made the following report, May 28, 1866 :

The Committee on Mines and Mining, to whom was referred Senate bill No. 257, "An act to regulate the occupation of mineral lands, and to extend the right of pre-emption thereto," have had the same under consideration, and beg leave to report a substitute, and to recommend its passage.

By this bill it is only proposed to dispose of the vein mines, and to provide for the segregation of the agricultural lands lying within the mineral regions. The proposition contained in it is to transfer the title of the United States to the possessors at a reasonable rate, and as a part of that rate to secure the payment of a percentage of the net proceeds of the vein mines into the treasury, until the present burdensome public debt shall be paid ; this percentage to be in lieu of all tax imposed upon bullion at the mints and assay offices under existing laws.

It is not proposed to interfere with, or impose any tax upon, the miners engaged in working placer mines, as those mines are readily exhausted, and not generally remunerative to those engaged in working them.

Your committee, in arriving at the conclusions they have, and recommending the passage of an act to provide for investing the miners of the country with the fee-simple to their vein mines, have not been unmindful of what the country owes to the enterprising men who have gone into the forests and recesses of the western States and Territories, and who have developed to the commerce of the world the heretofore hidden treasures therein ; they who, by patient and often ill-requited toil, without aid from the government in any manner whatever, have shown the ample foundation of the national credit in the mineral resources of the public domain. That policy by which the greatest amount of the precious metals shall be produced, and the greatest individual and aggregate wealth amassed by our own people, must be the wisest and best.

There has been constant fear felt by those who are engaged in promoting these results that some disturbance and interference with vested rights of property would occur. Measures for the sale of the mines and for the taxation of those engaged in working them have, from time to time, been proposed, creating the deepest apprehensions and most seriously affecting mining property. It is a first duty that all such doubts and fears shall be set at rest by the pro-

mulgation of a policy which shall give full and complete protection to all existing possessory rights upon liberal conditions, and with full and complete legal guarantees, and to provide the most generous conditions looking toward further explorations and developments.

There are widely differing opinions as to the course proper to be pursued between the population of the mining regions and the people of the east, whose representatives in Congress too often, without exact knowledge on the subject, propose heavy burdens upon the mining industry. The mass of people living in the mines feel that the mines should be left free and open to and within the reach of the hardy explorer and adventurer without tax or impost whatever; nay, feeling the many disappointments and failures to which they are subject in their efforts to acquire wealth from this source, they believe that the government of the United States, which they love, should rather offer rewards from the public treasury for the discovery of mines, than that such discovery should be but the signal for measures of taxation.

They also fear all systems of sale, lest any which should be adopted might result in a monopoly of the mines and their concentration into few hands. They are jealous of all systems for the disposition of the mineral lands which shall allow the lands to be bought by the fortunate possessors of large capital, in extensive bodies, to the exclusion of the men whose only capital consists in their labor. They, nevertheless, will readily acquiesce in any plan which shall confirm existing rights at reasonable rates, and which shall be safe against the evils to which your committee have referred.

The amount proposed is five dollars per acre for the vein mines and all the land adjoining necessary for working them, and the payment of three per cent. of the net product of all such mines into the treasury of the United States, which shall be in lieu of the present impost.

It will be remembered that the present tax was adopted in preference to the five per cent. tax on the *gross proceeds* of the mines proposed by the House of Representatives in 1864. Any tax on the gross product of mines must be purely a tax upon effort, and must result, as the recent tax on crude petroleum did, in the ruin of those engaged in the business, and a serious limit on production.

Another feature of the bill recommended is, that it adopts the rules and regulations of miners in the mining districts where the same are not in conflict with the laws of the United States. This renders secure all existing rights of property, and will prove at once a just and popular feature of the new policy. Those "rules and regulations" are well understood, and form the basis of the present admirable system in the mining regions: arising out of necessity, they became the means adopted by the people themselves for establishing just protection to all.

In the absence of legislation and statute law, the local courts, beginning with California, recognize those "rules and regulations," the central idea of which was *priority of possession*, and have given to the country rules of decision so equitable as to be commanding in its natural justice, and to have secured universal approbation. The California reports will compare favorably, in this respect, with the history of jurisprudence in any part of the world. Thus the miners' "rules and regulations" are not only well understood, but have been construed and adjudicated for now nearly a quarter of a century.

It will be readily seen how essential it is that this great system, established by the people in their primary capacities, and evidencing by the highest possible testimony the peculiar genius of the American people for founding empire and order, shall be preserved and affirmed. Popular sovereignty is here displayed in one of its grandest aspects, and simply invites us not to destroy, but to put upon it the stamp of national power and unquestioned authority.

This should be done generously, for the nation's sake. Those brave men

who have established a high civilization on the far-off Pacific, whose hearts, in the nation's trials, beat so true, and who are now fast closing in upon the civilization of your own west, should he made to feel, not that you are masters, but brethren and friends.

By their loyalty they gave you peace where your power was scarcely felt; by their industry they gave the solid base of silver and gold to the national issues and the national credit, and it is left to history to balance and to tell how, without that peace their patriotism so well preserved, and that silver and gold which their industry gave the nation, the national cause could have been equally benefited. From their earnings, too, came those contributions which will forever form so beautiful a chaplet around their own brows. They set the highest example of a Christian people, patriotic and peaceful, sturdy and loyal to freedom, industrious and charitable. It is for such a people that we legislate.

The necessity for the segregation of the agricultural part of the public domain from that which is purely mineral is of the first character. It will be remembered that mining alone cannot supply a single human want, and no community would eventually be so poor as a mining community purely. But the miner is nearly always the pioneer of society where mines exist—shortly, however, to be followed by the agriculturist and the artisan. Mutual production and exchange result, and society is established. Nothing renders society so stable as giving to the people the title to the land upon which they live. They learn to love it, and are the first to find out its greatest value, and consequently to employ it for the highest uses. Homes of a permanent character are thus established, and the school-house and church follow to light the path and to cheer the way through life. To these ends the earliest ownership should be given to him who, by patient and virtuous toil, proposes to become a cornerstone to community. Every wise consideration demands that the segregation of the agricultural lands from those purely mining should be made, and this bill makes such provision.

Your committee are aware that they tread new ground, but they bring many years of experience to the task, and the light has been used to reach the end which will promote the greatest happiness of the citizen and the glory of the republic.*

The following is a copy of the act of Congress approved August —, 1866, to legalize the occupation of the mineral lands, and for other purposes :

SECTION 1. That the mineral lands of the public domain, both surveyed and unsurveyed, are hereby declared to be free and open to exploration and occupation by all citizens of the United States, and those who have declared their intention to become citizens, subject to such regulations as may be prescribed by law, and subject also to local custom or rules of miners in the several mining districts, so far as the same may not be in conflict with the laws of the United States.

SEC. 2. *And be it further enacted,* That whenever any person or association of persons claim a vein or lode of quartz, or other rock in place, bearing gold, silver, cinnabar, or copper, having previously occupied and improved the same according to the local custom or rules of miners in the district where the same is situated, and having expended in actual labor and improvements thereon an amount not less than one thousand dollars, and in regard to whose possession there is no controversy or opposing claim, it shall and may be lawful for said claimant or association of claimants to file in the local land office a diagram of the same, so extended laterally or otherwise as to conform to the local laws, customs, and rules of miners, and to enter such tract and receive a patent therefor, granting such mine, together with the right to follow such vein or

* See Congressional Globe for debates on this bill.

lode, with its dips, angles, and variations, to any depth, although it may enter the land adjoining, which land adjoining shall be sold subject to this condition.

SEC. 3. *And be it further enacted*, That upon the filing of the diagram as provided in the second section of this act, and posting the same in a conspicuous place on the claim, together with a notice of intention to apply for a patent, the register of the land office shall publish a notice of the same in a newspaper published nearest to the location of said claim, and shall also post such notice in his office for the period of ninety days; and after the expiration of said period, if no adverse claim shall have been filed, it shall be the duty of the surveyor general, upon application of the party, to survey the premises and make a plat thereof, indorsed with his approval, designating the number and description of the location, the value of the labor and improvements, and the character of the vein exposed; and upon the payment to the proper officer of five dollars per acre, together with the cost of such survey, plat, and notice, and giving satisfactory evidence that said diagram and notice have been posted on the claim during said period of ninety days, the register of the land office shall transmit to the General Land Office said plat, survey, and description; and a patent shall issue for the same thereupon. But said plat, survey, or description shall in no case cover more than one vein or lode, and no patent shall issue for more than one vein or lode, which shall be expressed in the patent issued.

SEC. 4. *And be it further enacted*, That when such location and entry of a mine shall be upon unsurveyed lands, it shall and may be lawful, after the extension thereto of the public surveys, to adjust the surveys to the limits of the premises according to the location and possession and plat aforesaid, and the surveyor general may, in extending the surveys, vary the same from a rectangular form to suit the circumstances of the country and the local rules, laws, and customs of miners: *Provided*, That no location hereafter made shall exceed two hundred feet in length along the vein for each locator, with an additional claim for discovery to the discoverer of the lode, with the right to follow such vein to any depth, with all its dips, variations, and angles, together with a reasonable quantity of surface for the convenient working of the same as fixed by local rules: *And provided further*, That no person may make more than one location on the same lode, and not more than three thousand feet shall be taken in any one claim by any association of persons.

SEC. 5. *And be it further enacted*, That as a further condition of sale, in the absence of necessary legislation by Congress, the local legislature of any State or Territory may provide rules for working mines involving easements, drainage, and other necessary means to their complete development; and those conditions shall be fully expressed in the patent.

SEC. 6. *And be it further enacted*, That whenever any adverse claimants to any mine located and claimed as aforesaid shall appear before the approval of the survey, as provided in the third section of this act, all proceedings shall be stayed until a final settlement and adjudication in the courts of competent jurisdiction of the rights of possession to such claim, when a patent may issue as in other cases.

SEC. 7. *And be it further enacted*, That the President of the United States be, and is hereby, authorized to establish additional land districts, and to appoint the necessary officers under existing laws, wherever he may deem the same necessary for the public convenience in executing the provisions of this act.

SEC. 8. *And be it further enacted*, That the right of way for the construction of highways over public lands, not reserved for public uses, is hereby granted.

SEC. 9. *And be it further enacted*, That whenever, by priority of possession, rights to the use of water for mining, agricultural, manufacturing, or other purposes, have vested and accrued, and the same are recognized and acknowledged

by the local customs, laws, and the decisions of courts, the possessors and owners of such vested rights shall be maintained and protected in the same; and the right of way for the construction of ditches and canals for the purposes aforesaid is hereby acknowledged and confirmed. *Provided, however:* That whenever, after the passage of this act, any person or persons shall, in the construction of any ditch or canal, injure or damage the possession of any settler on the public domain, the party committing such injury or damage shall be liable to the party injured for such injury or damage.

SEC. 10. *And be it further enacted,* That wherever, prior to the passage of this act, upon the lands heretofore designated as mineral lands, which have been excluded from survey and sale, there have been homesteads made by citizens of the United States, or persons who have declared their intention to become citizens, which homesteads have been made, improved, and used for agricultural purposes, and upon which there have been no valuable mines of gold, silver, cinnabar, or copper discovered, and which are properly agricultural lands, the said settlers or owners of such homesteads shall have a right of pre-emption thereto, and shall be entitled to purchase the same at the price of one dollar and twenty-five cents per acre, and in quantity not to exceed one hundred and sixty acres; or said parties may avail themselves of the provisions of the act of Congress approved May 20, 1862, entitled "An act to secure homesteads to actual settlers on the public domain," and acts amendatory thereof.

SEC. 11. *And be it further enacted,* That upon the survey of the lands aforesaid, the Secretary of the Interior may designate and set apart such portions of the said lands as are clearly agricultural lands, which lands shall thereafter be subject to pre-emption and sale as other public lands of the United States, and subject to all the laws and regulations applicable to the same.

2.—PERMANENT TITLES TO MINERAL LANDS IN THE UNITED STATES.

In glancing back over the history of California for the last eighteen years, we cannot overlook the fact that the State has, for the want of a permanent mining population, lost what would be worth more than a hundred millions of money. The work has been done mostly by men who had no homes, and who did not intend to remain in California. Their enterprises generally were undertaken for the purpose of making the most profit in a brief time. There was no proper care for a distant future; and without such care no society is sound, no State truly prosperous. If a claim could, by hastily washing, be made to pay \$10 per day to the hand for three months, or \$6 for three years by a careful washing, the hasty washing was preferred. If a fertile valley that would have yielded a revenue of \$5 per acre for century after century to a farmer could be made to yield \$5 per day to a miner for one summer, its loam was washed away, and a useless and ugly bed of gravel was left in its place. The flumes, the ditches, the dwellings, the roads, and the towns were constructed with almost exclusive regard to immediate wants. The good turnpike roads were private property, on which heavy tolls were levied, so that not unfrequently a gentleman in a one-horse buggy would have to pay \$5 or \$10 toll in a day's travel. The claims were made small, so that everybody should have a chance to get one; but the pay-dirt was soon exhausted, and then there must be a move. In such a state of affairs miners generally could not send for their families or make elegant homes. Living alone and lacking the influences and amusements of home-life, they became wasteful and wild. Possessing no title to the land, they did nothing to give it value, and were ready to abandon it at any moment. The farmers, merchants, and other fixed residents of the mining counties are agitated and frightened nearly every year by the danger of a migration of the miners to some distant place. One year it is Peru; another it is British Columbia, Idaho, Reese river, Pahrangat, or Arizona; and it may next be Brazil, Liberia, or Central Africa, for all we know.

The losses to individuals and to the State have been so great from these migrations that for years past there has been an increasing desire for some change in the tenure of mining lands, so that the mining population shall be attached to the soil, and thus have an opportunity and a motive for establishing permanent homes and a personal interest in improving and enriching the country. The act of Congress passed at the last session for the granting of fee-simple titles to lode mines, and to the agricultural lands in the mineral districts, is the beginning of a new and better era in the history of the Pacific coast. So soon as the necessary surveys can be completed, many applications will be made for patents, and in a few years great and beneficial changes will result. Such is the general opinion among the more intelligent miners and public men of the coast. As an indication of the manner in which the news of the passage of the act was received, the following passages are quoted from leading editorials in influential newspapers :

The San Francisco Bulletin, in its issue of July 31st, said :

"No measure of equal consequence to the material, and, we may add, to the moral interests of the Pacific States, was ever before passed by Congress.

* * * The passage of the bill, whatever defects it may develop when more critically examined and enforced, marks a change in the public land policy equal in importance to the adoption of the pre-emption and homestead system ; indeed its practical effect will be to extend the now unquestionable benefits of that system to the vast field of the mineral regions which have hitherto been largely excluded from those benefits. * * * It was one of the greatest evils of the negative policy of Congress regarding the mineral lands that, while it prevented our own people from acquiring titles to them, it opened their treasures freely to the transient adventurers from abroad, who only came to take them away without leaving any equivalent. As a measure calculated to give homogeneity and fixedness to our population, security to titles, and encouragement to investments of capital and labor, the new mining law is full of promise. We believe it will have the effect also to stimulate exploration and production in the mining districts. Its good features are apparent ; its bad ones will appear in time and can be easily remedied."

The Alta Californian of the same date, said :

"The passage of the bill will be regarded in future times as an epoch in the history of the State. It offers a patent to every lode miner who desires it ; it opens all the agricultural land in the mineral districts to pre-emption and homestead claims, and it will give secure titles, build up comfortable homes, and fix a large permanent population in the rich mining country of the Pacific slope."

The Mining and Scientific Press, in its issue of the 14th of July, 1866, spoke thus, editorially :

"The papers generally throughout the State (California) and Nevada appear to approve the bill ; and so far as we can judge there is a general feeling favorable to its passage, as a necessity for quieting the public mind upon this vexatious question."

The Stockton Independent of January 8, 1866, spoke thus of some of the evils which this bill was designed to cure :

"There are now over one hundred thousand adult men and women in the mines of California and Nevada without homes or the possibility of acquiring them. Shall we let this preposterous rule go on from generation to generation, until from hundreds of thousands this nomadic population amounts up to millions and tens of millions ? From the twenty-seventh to the forty-seventh meridian of longitude, and from latitude thirty-four to the extremest northern line of the

United States, all is mineral land—all has been prospected and proven to be such.

Is it the part of wise statesmanship to adopt as a permanent law the rule that the millions who are in the next quarter of a century to occupy this vast area—over one-third of our territory—shall be without homes? Such a thing is horrible to contemplate. Compared with it the anarchy and social demoralization which have reigned in Mexico, Peru, and other Spanish American countries for the last half century are as nothing. The policy is wholly opposed to the instincts and habits of the Anglo Saxon race—opposed to the idea of law and government. It invites the nation to anarchy and offers a premium to crime and pauperism.

It is high time that the rule were changed. All the mineral lands ought to be surveyed in small lots and sold, or at least given away in fee to the occupants.

These people should have homes and the means of acquiring permanent property and status as citizens."

The Sacramento Union of the 23d of June said :

"There are many miners who feel as deep an interest in the matter as others who devote themselves exclusively to farming, for prosperous miners, who do not wish to abandon the hills and valleys where they have harvested fortune, have a passion for pretty homes and a blooming ranch. Upon the whole, this bill has been framed with a more intelligent regard for the interests of the people of the Pacific coast than any other previous measure that we can now recall, and it is probable that its provisions can be executed without inflicting injury upon the rights which accrued under the policy hitherto pursued by the government. It is a great stride towards the final adjustment of a dangerous question, and a vast improvement upon the measures broached at Washington at various periods during the past three years."

Governor McCormick, of Arizona, in his annual message delivered to the legislature on the 8th of October, 1866, said :

"The act of Congress to legalize the occupation of mineral lands, and to extend the rights of pre-emption thereto, adopted at the late session, preserves all that is best in the system created by miners themselves, and saves all vested rights under that system, while offering a permanent title to all who desire it, at a mere nominal cost. It is a more equitable and practicable measure than the people of the mineral districts had supposed Congress would adopt, and credit for its liberal and acceptable provisions is largely due to the influence of the representatives of the Pacific coast, including our own intelligent delegate. While it is not without defects, as a basis of legislation it is highly promising, and must lead to stability and method, and so inspire increased confidence and zeal in quartz mining."

The Virginia Enterprise, the leading journal of the State of Nevada, in its issue of July 13, advocating the passage of the bill, said :

"The bill proposes nothing but what already exists, except giving a perfect title to the owners of any mine who may desire it. But the effect of this single title clause, if the bill becomes a law, will be of wonderful benefit to our State. Domestic, and especially foreign capitalists, who have been restrained from investing in our mines on account of the uncertain tenure by which they were held, and the general insecurity of title, will not hesitate to invest when they are guaranteed unmolested and permanent possession by the government. It will give an impetus to prospecting, for discoveries will be salable; to developments and heavy operations generally, for titles will be quiet and secure. It will create an unprecedented demand for labor, and inaugurate enduring prosperity throughout the State. The poor and the rich, the workingman and the capitalist, will be equally benefited by it."

It may be useless to regret past mistakes, and there is some difference of opinion among miners whether any serious mistake has been made, but it is evident that if the mining population could have been made permanent residents of the various counties as early as 1849, California would now be thrice as rich, in a pecuniary point of view, as she is at present. Her gold produce alone has been \$900,000,000; and the produce of her agriculture and other branches of industry has been nearly as much, and yet the total assessed value of the taxable property of the State is only \$180,000,000, of which nearly half is land alone; so it seems California, with all her wonderful wealth, intelligence, and industry, has made only five per cent. profit on her business in a period of twenty years of such an abundance of gold and comparative cheapness of the necessities of life as were never witnessed elsewhere in the world.

SECTION 11.

1. Mining laws.—2. Need of congressional legislation.—3. Customary limitation of size.—4. Proposed width of claims.—5. Work required to hold claims.—6. Proposed change as to work required.—7. Law needed for centuries of mining.—8. Congress alone can establish uniformity.—9. Miners' regulations in Nevada county.—10. Miners' regulations in Sierra county.—11. Miners' regulations in Tuolumne county.—11½. Miners' regulations in Sacramento county.—12. Miners' regulations in Columbia district.—13. Miners' regulations in North San Juan district.—14. Miners' regulations in Pilot Hill district.—15. Miners' regulations in New Kanaka camp.—16. Miners' regulations in Copperopolis district.—17. Statute of Nevada.—18. Blank district, Nevada.—19. Virginia district, Nevada.—20. Regulations of Reese River district.—21. Quartz statute of Oregon.—22. Quartz statute of Idaho.—23. Quartz statute of Arizona.—24. The mining laws of Mexico.

1.—MINING LAWS.

Mining for gold and silver is a business new in Anglo-Saxon life, and not provided for in our laws. Suddenly the American government has found itself in the possession of the richest deposits of the precious metals in the world, with the certainty that the mining industry based upon them will be one of the greatest and most permanent interests of the country. It is necessary now to foster this industry, to protect it, to frame a code of laws that will leave every possible liberty to the miner who wishes to work fairly in extracting the metal from the earth, and will throw every possible obstruction in the way of the drones and swindlers who wish to defraud the honest laborer by compelling him to pay for the right of working mines that should be open to him without charge.

And, first, let us look at the regulations adopted by the miners and the statutes adopted by certain States and Territories in regard to mining for gold and silver.

It is impossible to obtain, within the brief time allowed for this preliminary report, a complete collection of the mining regulations, and they are so numerous that they would fill a volume of a thousand pages. There are not less than five hundred mining districts in California, two hundred in Nevada, and one hundred each in Arizona, Idaho, and Oregon, each with its set of written regulations. The main objects of the regulations are to fix the boundaries of the district, the size of the claims, the manner in which claims shall be marked and recorded, the amount of work which must be done to secure the title, and the circumstances under which the claim is considered abandoned and open to occupation by new claimants. The districts usually do not contain more than a hundred square miles, frequently not more than ten, and there are in places a

dozen within a radius of ten miles. In lode mining, the claims are usually two hundred feet long on the lode; in placers the size depends on the character of the diggings and the amount of labor necessary to open them. In hill diggings, where the pay dirt is reached by long tunnels, the claim is usually a hundred feet wide, and reaches to the middle of the hill. Neglect to work a placer claim for ten days in the season when it can be worked is ordinarily considered as an abandonment. The regulations in the different districts are so various, however, that it is impossible to reduce them to a few classes comprehending all their provisions. The States of Nevada and Oregon and the Territories of Idaho and Arizona have each adopted statutes in regard to the size and tenure of mining claims, and these statutes, so far as they conflict with the district regulations, probably supersede them, although the act of the last session of Congress to legalize the occupation of the mineral lands provides for the issue of patents to only the holders of those lode claims which are occupied and improved according to the local custom or rules of miners in the district where the same is located.*

Question might arise whether the statute of the State or Territory is to be recognized as of any force in determining the right of claimants to patents. The congressional act mentions only "the local custom or rules of miners in the district;" and those words certainly do not describe a statute; and yet the statute should be preferred, because it is uniform, clear, preserved in unquestionable records, accessible to all, and of precise jurisdiction; whereas the local customs and rules are various, and in many districts indefinite, unrecorded, almost inaccessible, and conflicting in their jurisdiction.

The evils of the system of local customs and rules are well stated in a report made to the senate of Nevada on the 23d February last by the committee on mines and mining. The subject under consideration was the adoption of a general statute to supersede these local customs and rules. The committee say:

"In the establishment of a code of mining laws in this connection there are certain self evident principles which should be adopted—

"First. The interest in question being coextensive with the area of the State, and intimately blended with every part of it, the laws which seek to regulate it should be general in their character, uniform in their application, and universal in their dissemination.

"Second. It being a vital and permanent interest, the laws which govern it should have the vitality and stability of legislative enactment.

"Third. It being an interest pertaining to our own people, but valueless to them without foreign aid, the aim of the laws should be twofold, to give protection to our citizens and encouragement to capital."

Does the present system answer all or any of these requirements?

1. As to uniformity: there is now nothing approaching it. There never was confusion worse confounded. More than two hundred petty districts within the limits of a single State, each one with its self approved code; these codes, differing not alone each from each other, but presenting numberless instances of

* SECTION 2. *And be it further enacted*, That whenever any person or association of persons claim a vein or lode of quartz, or other rock in place, bearing gold, silver, cinnabar, or copper, having previously occupied and improved the same according to the local custom or rules of miners in the district where the same is situated, and having expended in actual labor and improvements thereon an amount not less than one thousand dollars, and in regard to whose possession there is no controversy or opposing claim, it shall or may be lawful for such claimant or association of claimants to file in the local land office a diagram of the same, so extended laterally or otherwise as to conform to the local laws, customs, and rules of miners, and to enter such tract and to receive a patent therefor, granting such mine, together with the right to follow such vein or lode with its dips, angles, and variations to any depth, although it may enter the land adjoining, which land adjoining shall be sold subject to this condition.

contradiction in themselves. The law of one point is not the law of another five miles distant; and a little further on will be a code which is the law of neither of the former, and so on *ad infinitum*, with the further disturbing fact superadded that the written laws themselves may be overrun by some peculiar "custom" which can be found nowhere recorded, and the proof of which will vary with the volume of interested affidavits which may be brought on either side to establish it.

Again, in one district the work required to be done to hold a claim is nominal; in another, exorbitant; in another, abolished; in another, adjourned from year to year. A stranger, seeking to ascertain the law, is surprised to learn that there is no satisfactory public record to which he can refer; no public officer to whom he may apply who is under any bond or obligation to furnish him information or guarantee its authenticity. Often in the newer districts he finds there is not the semblance of a code, but a simple resolution adopting the code of some other district, which may be a hundred miles distant. What guarantee has he for investment of either capital or labor under such a system?

Again, under the present loose organization of districts, with their vagueness of boundary, it is often impossible to determine by which code of laws a location is governed. Cases of this kind have already arisen in several districts, and are liable to do so again in any part of the State; and, under the present system, there is no means of guarding against it, except by an actual survey of the boundaries of every district—an incalculable expense.

2. As to permanency of regulations, even such as they are, there is now no guarantee even of that. A miners' meeting adopts a code; it apparently is the law. Some time after, on a few days' notice, a corporal's guard assembles, and, on simple motion, radically changes the whole system by which claims may be held in a district. Before a man may traverse the State, the laws of a district, which by examination and study he may have mastered, may be swept away, and no longer stand as the laws which govern the interest he may have acquired; and the change has been one which by no reasonable diligence could he be expected to have knowledge of. But if the laws be uniform, and registered upon the statute book of the State, he will have security in his tenure, and reasonable notice of any change therein.

3. As to protection to the miner and encouragement to the capitalist, the present system, or lack of system, affords neither. The cause of uncertainty of titles to land in our sister State did not, through fifteen years of her history, more paralyze her progress than the uncertainty of mining titles in the outside districts now retards our development. Five years ago a horde of greedy prospectors from every part of the Pacific coast swept over our State, leaving their notices of location on every "dip, spur, and angle," "thick as leaves in Vallambrosa;" and, after a year or two of feverish unrest, swarmed away again to the newer fields of Idaho and Montana, leaving nothing to mark their passage but their faded "notices" mouldering on the hillside, their pitiful burlesque of development in the way of assessment-work, and the threatening terrors of the common-law doctrine as to "vested rights." This is what the true citizens of Nevada, those who, never losing faith in her future, have adhered to her fortunes in sunshine and gloom, now reap from the ruinous system of unlegalized district laws. They see thousands of claims in which capital would be eager to engage, could satisfactory title be given, now lying neglected because there is no system of abandonment as yet, or sufficient legislative or judicial sanction to gain the confidence of business men. Such will not be satisfied with a "general belief," or an "evident tendency of decisions;" they insist on definite enactment or positive adjudication. In vain do our people relocate abandoned mines in accordance with the only laws which govern the matter. When such titles are presented to the capitalist his first inquiry is: "What is the authority for so

doing? Has your legislature authorized it? Has your judiciary sanctioned it? If not, where is the security for investment?"

As an instance of the manner in which the mining regulations are changed and the mining records neglected, the experience of North San Juan, one of the most prosperous and permanent mining towns, may be given here.

The Sweetland mining district was organized and a series of regulations adopted for it in 1850, when claims were restricted to thirty feet square. In 1852 the size was enlarged to eighty by one hundred and eighty feet, and the regulations were changed several times in other respects. In 1853 the Sweetland district was subdivided into three smaller districts, of which North San Juan is one. This latter adopted a set of regulations at the time of its organization, and adopted the set now in force a year later. A mining recorder was elected in 1854, but he has been absent from the district for five years, and no one has been chosen to fill the place. The regulations are treated by many persons as if they were no longer in force—at least, as regards certain points; and in many cases it would be difficult to ascertain whether there is any good title to claims under the regulations.

2.—NEED OF CONGRESSIONAL MINING LAW.

I would suggest that the act of last session should be so amended that, in the granting of patents, State and territorial statutes in regard to the size, possession, working, and abandonment of claims should be regarded as of higher authority than the "local custom or rules;" and I venture to recommend further that a congressional act should be passed prescribing the manner of taking up, recording, working, and abandoning mining claims so long as the title remains in the United States, so that uniformity shall prevail throughout the whole country. Such an act, based on the laws and regulations of which copies are given on subsequent pages, would, I am confident, give general satisfaction to the miners, as securing their equal rights. As it is now, there is great diversity.

The following list shows some of the differences in the size of the claims:

Arizona, under statute, 600 feet square.

Oregon, under statute, 300 feet on the lode by 150 feet wide.

Idaho, under statute, 200 feet on the lode by 100 feet wide.

Nevada, under statute, 200 feet on the lode by 200 feet wide.

Nevada county, California, miners' regulations, 100 feet.

Tuolumne county, California, miners' regulations, 150 feet on the lode and 150 feet on each side.

Sierra county, California, miners' regulations, 250 feet on the lode and 250 feet on each side.

Copperopolis district, California, miners' regulations, 150 feet on the lode and 250 feet on each side of the lode by 300 feet wide.

In most districts of Nevada and in many of California a miner may claim for each person in his company 200 feet on the lode, but he acquires no exclusive right of possession to the adjoining land, except in so far as he may have to occupy it in his mining operations. In Arizona, Oregon, Idaho, and some districts of California and Nevada, the mine may take a considerable tract on the sides of the lode. If we compare the size of the claims simply in relation to the length on the lode, we see that, taking the space allowed to the miner in Nevada county, California, as the unit of measurement, the miner in the State of Nevada gets twice as much, in Oregon thrice as much, and in Arizona six times as much. There is no good reason why the claims should not be of the same size in all these places. The act of Congress provides in section 4 "That no location hereafter made shall exceed two hundred feet in length along the vein for each locator, with an additional claim for discovery to the discoverer

of the lode, with the right to follow such vein to any depth, with all its dips, variations, and angles, together with a reasonable quantity of surface for the convenient working of the same as fixed by local rules: *And provided further*, That no person may make more than one location on the same lode, and not more than three thousand feet shall be taken in any one claim by any association of persons." These provisions reduce the length of the claims to be located hereafter in Arizona and Oregon to two hundred feet for each person; but they do not authorize any enlargements of the claim in the districts where the limit is less than the two hundred feet. And yet justice and sound policy require that a miner should be permitted to take up as large a claim in Nevada county or in Tuolumne county, California, as in Oregon or Arizona.

3.—THE CUSTOMARY LIMITATION OF SIZE.

The limitation is, however, more apparent than real. If John Smith supposes a lode to be rich, he selects a portion three thousand feet long, puts a stake at each end, with a notice, and files with the recorder of the district or county, a notice that he and fourteen associates have taken up that claim. If he imagines that there is some rich ground outside of the three thousand feet, he takes another claim of three thousand feet, in the names of fifteen friends not mentioned in the first notice. He may have no authority from those persons to take claims for them, but no one objects in such a case. If John Smith now desires to own more than his two hundred feet, he goes to the men whose names he has put down, and requests them to give him a bill of sale for one hundred feet, or one hundred and fifty feet each, and as they owe their claims to him, they cannot refuse. Then, instead of being the owner of only two hundred feet, he can become, with little trouble or expense, the owner of three or four thousand feet. He can hold as many feet by purchase as he pleases. There is no limitation in any county to the amount of mining claim that can be held by one person by purchase; but in Mexico no company can locate more than four times as much as the claim of a single individual, and there is less opportunity for the abuse of which mention has been made. It would be advisable, in my opinion, to amend the act of last session so that no claim for any company shall exceed sixteen hundred or two thousand feet in length. The Mexican law fixes the limitation at two hundred varas, or about twenty-two hundred feet. I would recommend further that, in the proposed change in the length of claims, each individual should be entitled to hold by location not more than five hundred feet. The valuable claims are usually found by solitary miners, or by small parties of not more than three. When such, or a miner or party, finds a place in a rich lode, there is no good reason why he or they should be compelled by the law to give most of it away to friends, as is done under the present law and custom. Three locators get only six hundred feet out of three thousand, or one-fifth. They may request their friends to convey to them one-half of the remaining four-fifths, but oftentimes they fear that such request would give offence, and if the claim turns out to be valuable, most of the benefit goes to persons who have done nothing to discover the mine. It would be better to offer a larger reward to the miner, and not compel him to give so much to his friends. Two hundred feet is not enough on ordinary lodes for a mining enterprise; the pay-streak of rock may run down obliquely lengthwise in the vein, and the miner wants to know that he can follow it for a considerable distance in his claim. If two miners should find a rich place in a quartz lode, and could trace it for eight hundred feet along the lode, and were satisfied that the mine would prove profitable from the start, and were doubtful whether any part of the lode beyond the eight hundred feet would pay, it is evident that they would rather own the eight hundred feet by location than be compelled to give half of it to other persons. The knowledge that location could acquire more than two hundred feet by loca-

tion would encourage prospecting. If, on the other hand, the lode contained only a moderate quantity of valuable ore, and could not be made to pay until after an investment of more capital than the two had at their command, then they could make up the original company of eight persons, with one hundred feet to each; or they could take up the claim in their two names, and each could sell or give away portions of his share to friends who would furnish money. By increasing the amount that each individual can hold by location, the miner has everything to gain and nothing to lose. If the mine will pay from the start, the profit goes to the man who deserves it; if the mine requires outside capital for its development, the miner can obtain it as readily as at present. The Spanish law which was framed in 1783, after an experience of two hundred and fifty years, and is now in force throughout Spanish America, allows each locator to hold two hundred varas, or five hundred and fifty feet. The quartz regulations of California were most of them framed about 1852 and 1853, with no experience, and under the influence of persons familiar only with the small claims customary in the placers. It is true that many of the regulations have been re-enacted at later dates, but the old influences have not been broken up. There is now a disposition to find fault with the California regulations, and to prefer the provisions of the Mexican law, as to the size of claims.

4.—PROPOSED WIDTH OF CLAIMS.

A claim should cover not only the lode but a certain area on both sides. The act of Congress allows a reasonable quantity of surface for the convenient working of the same, as fixed by "local rules." Here again the "local rules" alone are recognized. What is a "reasonable" quantity of surface? In Arizona it is three hundred feet on each side of the middle of the lode; in Oregon it is twenty-five feet on each side of the lode; in Idaho it is a tract one hundred feet wide; in Tuolumne county, California, it is one hundred and fifty feet on each side of the lode; in Sierra county, California, it is two hundred and fifty feet wide on each side; in the Copperopolis district it is three hundred feet wide; in the State of Nevada, Nevada county, California, and in many other counties of California, it is all the land that is actually occupied by the works of the company or miner, and no more. Under the customs in those districts in which the miner obtained no fixed quantity of surface, he never laid claim to any portion outside of his lode, except as he occupied it for his tunnel, shaft, mill, dwelling, ditch, dump, reservoir for tailings, or something of the sort; if he had all his works at one end of his claim, he had no title to any of the surface of the other end; any other miner might then take up another lode within ten feet of his and work it. The law of Mexico, the statutes of Arizona, Oregon and Idaho, and the regulations of Tuolumne and Sierra counties, authorize the miner to occupy a specific amount of surface, and all the minerals within that area belong to him, whether he has discovered all the lodes within it or not. It often happens that large veins have branches or spurs, which at the surface appear as if they were parallel veins, and when the main vein is opened and found to be rich, outsiders, if not forbidden by the laws or regulations, make a custom of claiming the spurs and branches, in the hope that they may prove to be independent lodes, or in the expectation of making money out of them before the connection can be proved, or for the purpose of compelling the owner of the main lode to buy them out, and thus save the expense of litigation. Such claims upon spurs, and the litigation resulting from them, have been among the most important facts in the history of Virginia City, and they have been common in many of the quartz districts of California. They are among the greatest evils that beset lode mining in certain counties. It was mainly to prevent this kind of fraud, for it is scarcely possible to give any other name to it as generally practiced, that the law of Mexico authorized the miner to hold a tract five hundred and fifty feet wide at

right angles to the course of the lode, and thus he could cover any ground which he found interlopers might want to claim. The purpose was not so much to give him room for working, as to secure his title and protect him from litigation and troublesome neighbors. Under every set of regulations, customs, or local rules, and under every code of mining law, the owner of the main vein under the first location owns all the spurs; but he may not be able to prove for years that it is a spur. This was the case in several important suits in Virginia City, where the spur was not traced to its union with the main vein until the miners had gone down five hundred feet, and they did not reach that depth till after years of working. There may be, and no doubt are, cases in which two valuable and independent lodes are found within two hundred feet of each other; and in such instances it would perhaps be injurious to the mining interest to let the first claimant have both lodes, but such cases would be very rare. As a matter of fact there is no complaint among miners of any evil caused by giving a claim to a fixed area of surface, whereas there is great complaint about the license of taking claims on spurs within a few feet of the main lode. The latter evil is common; the former is almost unknown; the general sentiment among the miners favors the recognition of a surface claim at least two hundred feet wide across the lode.

5.—WORK REQUIRED TO HOLD CLAIMS.

One of the greatest evils that besets lode mining at present is that a vast number of claims are held without being worked, and without any expectation on the part of the claimants of working them. Most claims are taken up merely as a matter of speculation, and not for the purpose of mining; and many of the claimants are persons who have never done any regular work at quartz mining. When a rich vein is found, a multitude of persons rush to the place, and each one gets a claim, if possible, in every vein in the district. He puts down the names of enough associates to make up a claim a thousand or two thousand feet long, and thus all the lodes of the district are soon appropriated. Two or three of the associates may be present with him or perhaps not one of them has ever been near the place. He has taken his claims and he now waits for others to develop the district and prove that they are valuable. If by the opening of the adjacent mines, his claims are proved to be rich, he sells out at a handsome profit; if not, he has lost little. Then if a miner goes into one of the quartz mining districts and wishes to prospect a vein thoroughly, he will find that most of these lodes which he would prefer to work are held as claims, though no substantial work has been done in them. He cannot afford to buy, because he might have to buy dozens before finding one that would yield anything before being examined; and he cannot afford to prospect before buying, because any discovery that he might make would enhance the price, and be to the profit of the claimant. The system that recognizes the validity of unworked claims is a great check to mining industry and to the development of mineral wealth. The individuals who profit by it are usually of a class who thrive at the expense of the industrious and enterprising. The miner desiring to get a claim with the intention of working it has everything to lose and nothing to gain by the system. It is true that the local regulations require the claim-holder to do a certain amount of work every year to secure his title, but this requirement is in most districts a mere form,* and it is evaded by sham† work, or the require-

*The San Francisco Mining and Scientific Press, a recognized authority among miners, says in its issue of the 14th of July, 1866:

“With regard to the performance of labor to perfect a title, every miner knows that the rule, as at present established, is a mere farce.”

†Governor McCormick of Arizona, in his message delivered to the territorial legislature on the 8th of October, 1866, says:

ment is a nullity because no provision is made for ascertaining whether the work has been done, and the title is held to be good until, when some adverse claim is made, the first claim is pronounced invalid by a court, after a trial in which the result does not necessarily go with justice. The presumption is always with the first claimant in such cases. A considerable portion of the community being interested in similar sham claims, it is difficult to get a jury to give a verdict against them, even if the testimony were against them; but the law is so framed that usually if one witness swears that a certain amount of work has been done to hold a claim, the adverse party cannot disprove it. Now let us see what amount of work is necessary to hold a lode claim in various districts.

In the course of the year 1866, eighty miles of quartz claims were taken up in Nevada county, and most of these claims are held to-day by a good title under the mining regulations, though not five miles of the eighty to-day are worked, and the owners of the remaining seventy-five have no intention of working their claims soon.

The Nevada Transcript, (Nevada county, California,) in a number published in October, 1866, said :

"It is safe to estimate the mining locations of the past two years in this county, including water privileges, gravel and quartz claims, at about 373 miles. The locations of the present year amount to over 177 miles. Of these fully one-half are quartz claims. This estimate will suffice to show the great importance to which quartz mining has grown within a very short period. Very few of the many ledges located have yet become yielding mines, and a large number are now unworked, the owners, having done work enough to hold them, are waiting for more enterprising men to develop the neighboring claims."

Under the statute of Nevada a claim may be held for one year by the excavation of fifty cubic feet of rock for each two hundred feet, or by the payment of two cents per foot.

Under the statute of Oregon a claim may be held for a year by work to the amount of fifty dollars for each three hundred feet, or for the share of each original locator.

In Idaho, under the territorial statute, work to the amount of one hundred dollars for the claim of each original locator gives a perpetual title.

According to the territorial statute of Arizona the claimant or claimants must sink a shaft thirty feet deep, or cut a tunnel fifty feet long, within the first ten days, to establish a claim, which may then be held for two years without further work by filing an annual affidavit of intention to work the claim; and after two years the claim, no matter how many feet it contains, may be held by thirty days' work annually.

Under the local regulations of the Virginia district, three days' labor would secure the title to two hundred feet for one month, or work to the amount of forty dollars for six months.

The local regulations for Reese River district do not provide for any forfeiture for lack of work.

The local regulations of Nevada county, California, require twenty days' work or labor to the amount of one hundred dollars to secure a claim for one year.

"It is also important that, excepting in districts where active hostility on the part of the Indians absolutely prevents, the actual occupation and improvement of claims shall be made requisite to their possession, unless pre-empted under the congressional law. The lack of such a requirement hitherto has seriously retarded the development of our mineral resources and the general prosperity of the Territory, and proved discouraging to new comers, especially in the counties on the Colorado river, where hundreds of lodes, taken up in years past by parties now absent from the Territory, are unworked; and yet, under the existing law, no one has a right to lay claim to them, be he ever so able or anxious to open them."

In the Copperopolis district seven days' work holds a company's claim for a year.

Under the local regulations of Tuolumne county, California, one day's work will hold a claim for a month, or labor to the value of one hundred dollars will hold it for six months.

6.—PROPOSED CHANGE AS TO WORK REQUIRED.

There is no uniformity here, nor is the same amount of labor required by any two codes. Diversity implies injustice to individuals and injury to the State. If it were wise to give a perpetual title in Idaho, after labor to the value of one hundred dollars had been done, it cannot be wise to require labor worth fifty dollars annually in Oregon, or one hundred dollars in Nevada county, California. All the statutes and regulations require some work, except the State of Nevada, which enables the claimant by paying two cents per lineal foot annually, to hold his claim forever. The two cents are to go into the State treasury, and the commutation, if maintained, will have a very prejudicial effect on the mining interest. It will enable men to hold claims without working them, and that is precisely the result which the laws should prevent. One of the evils with which lode mining has now to contend is that the miners who are willing and anxious to work lodes lying idle on public land cannot get possession of them. The law should be strict against those who hold claims without working them. Every presumption should be against titles that are not founded on continued occupation and work. The statutes should be so framed that the miner who desires to work, and who does work in good faith, shall have every advantage over the drone who takes claims and tries to hold them until their great value is proved by others, so that he can sell them out, after having incurred little expense or risk.

In Mexico it is expected that the miner will keep at least four men employed continually at his mine, and if he omits to have so many as four for a period of four months, except in time of war, famine, or pestilence, he forfeits his title. The constant labor of one, two, or three men, or the employment of a dozen during the year, is not enough. The Mexican law, however, is too strict on this point for the present wants of the American mining districts. Wages are so high that many companies, which really intend to open the mines, and are at work in good faith with one or two men, would abandon their claims rather than undertake to pay four men continuously. Nevertheless, severe as Mexican law is on individuals, it is admirably fitted to develop the mining interest. The Spanish maxim is that the man who does the most work in the mine has the most right to it.

7.—LAW NEEDED FOR CENTURIES OF MINING.

It is evident to all who have made themselves familiar with the history of mining in other countries, and who have examined the mineral resources of the Pacific States, that our gold and silver mining industry will last for centuries, and will grow to be far more important and to employ many more laborers than at present. It is evident, too, after the consideration of the various statutes and local regulations that some further legislation is necessary to protect and foster the development of this great industry. If further legislation be necessary, wisdom suggests that action should not be postponed for a time. The mining industry is too important to the interests of individuals and to the wealth and growth of the State to be neglected. It is now, while the business is still in its infancy, that the proper principles should be laid down, so as to secure the miner in the safe enjoyment of the treasures which he brings to light. The land on which the mining industry is based belongs to the Union, and Congress has the exclusive jurisdiction over the tenure of claims until the time when they become private property.

The act of the last session is an excellent foundation on which to build up gradually a code suited to our wants, and the local mining regulations suggest many important provisions. The interests involved, both public and private, are so great that much caution is necessary; and yet the necessity of some uniform and comprehensive system is undeniable. It is better to legislate too little than too much, and the first statutes should be confined to a few general and fundamental principles, to which additions can be made as experience is gained and the wants of the miners are better understood. The main purpose of legislation, in mining, should be to protect the working miner, and encourage him in the development of the mineral resources of the country. His interest in this matter is intimately associated with the prosperity of the nation.

8.—CONGRESS ALONE CAN ESTABLISH UNIFORMITY.

Congress alone can establish uniform rules, applicable equally to all the mining districts. Experience has shown that if the matter be left to the several States and Territories in which the mineral deposits are found, each will have its own system. Local, personal, and immediate interests have far more influence in local legislatures than in Congress; which last, from the manner in which it is constituted, must pay more regard to general, permanent, and public interests. It is therefore in every respect to be desired that Congress should exercise its power and fix by a comprehensive act the terms upon which claims to mines on the public land may be held. A wise and generous basis for such legislation was laid by the act of last session. The equity of the miner's title was acknowledged; the courts were directed to protect him in his possession; and the validity of the local rules was for the time recognized. The subject was too extensive to dispose of it all at once. It is better to do the work slowly than to do it ill. Step by step we shall advance to have a superior law, worthy of the superior energy, intelligence, and industry of our miners, and the superior richness and extent of our mineral deposits.

The following are the miners' regulations in some of the principal mining districts:

9.—MINERS' REGULATIONS.—QUARTZ REGULATIONS OF NEVADA COUNTY, CALIFORNIA.

ARTICLE 1. The jurisdiction of the following laws shall extend over all quartz mines and quartz mining property within the county of Nevada.

ART. 2. Each prospector of a quartz claim shall hereafter be entitled to one hundred feet on a quartz ledge or vein, and the discoverer shall be allowed one hundred feet additional. Each claim shall include all the dips, angles, and variations of the vein.

ART. 3. On the discovery of a vein of quartz, three days shall be allowed to mark and stake off the same in such manner, by name of the owner and number of the claim, or otherwise, as shall properly and fully identify such claims. Parties having claims may cause a map or plan to be made and a copy filed with the recorder, if deemed requisite to more particularly fix the locality.

ART. 4. Work to the extent of one hundred dollars in value, or twenty days' faithful labor, shall be performed by each company holding claims, within thirty days of the date of recording the same, as provided for in article sixth of these laws; and the duly authorized representative of a company making oath that such money has been expended, or that such labor has been performed, shall be entitled to a certificate from a county recorder or deputy, guaranteeing undisputed possession of said claim for the term of one year; and a like sum of money or amount of labor expended or performed within twenty days of each succeeding year, duly acknowledged as herein named, shall entitle the claimant

or company, from year to year, to further certificates of undisputed proprietorship and possession; and a company having a mill contracted for in good faith, to the amount of five thousand dollars, for the working of its claim or claims, the proper representatives of the company making oath of the same, shall be entitled to receive from said county recorder a title-deed to said claim or claims, guaranteeing to the claimant or company, their successors and assigns, undisputed possession and proprietorship forever under these laws; provided that nothing in this article shall at any time be inconsistent with the laws of the United States.

ART. 5. Whenever the requisite amount of money or labor has not been expended within thirty days from the adoption of these laws, the claim or claims thus neglected shall be considered abandoned and subject to be relocated by any other party or parties.

ART. 6. Any person a citizen of the United States, or any person having taken the necessary steps to become a citizen of the United States, shall be entitled to hold one quartz claim as provided for in article first, and as many more as may be purchased in good faith for a valuable consideration, for which certificates of proprietorship shall be issued by the county recorder.

ART. 7. The regularly elected county recorder of Nevada county shall serve as recorder of this county in quartz claims, authenticating his acts by the county seal. He shall appoint as his deputy such person for Grass valley as may be elected by the district of Grass valley, and he shall pass his records to his successor.

ART. 8. The fees of the recorder and deputy shall be the same as the statute fees for recording per folio.

ART. 9. No title to a claim hereafter taken up or purchased shall be valid unless recorded in the books of the aforesaid county recorder or deputy within ten days of its location or purchase.

Adopted December 20, 1852, and still in force.

10.—QUARTZ REGULATIONS OF SIERRA COUNTY, CALIFORNIA.

ARTICLE 1. A claim on any quartz ledge in this county may have a length of two hundred feet along the same, and a width of two hundred and fifty feet at right angles with the ledge, on each side of the same, to include all quartz found within the above-mentioned limits.

ART. 2. Any person discovering a gold-bearing ledge, not previously located, shall be entitled to two claims, being one claim for discovery.

ART. 3. No person but a discoverer shall be entitled to hold more than one claim by location, in a company.

ART. 4. No one but an American citizen, or a foreigner who has and exhibits his foreign miner's tax receipt, shall be allowed to hold a claim by location on any quartz ledge in this county.

ART. 5. It shall be necessary for claimants to post a notice on some conspicuous place on the claims located, setting forth the number of feet claimed, and from what point, upon which the real names of the locators shall appear in full. Said notice shall hold good for ten days, at the expiration of which time a copy of said notice shall be placed upon the records of this county. The notice and record as above shall hold said claims, without further improvements, from and after the first day of November until the first day of May following, if recorded after said first day of November. But upon all claims located between the first day of May and the first day of November following, labor to the amount of eight dollars per claim shall be expended toward the prospecting or developing the same in each thirty days after such location.

ART. 6. To hold quartz claims for the first twelve months after location, it shall be required of each claimant to expend at least one hundred dollars upon each claim of two hundred feet in such improvements as may be required in the development of the same.

ART. 7. Quartz claims, which have been duly located in accordance with the foregoing rules and regulations, persons are entitled to hold without limit as to number, by afterwards conforming to the requirements set forth in these by-laws.

ART. 8. All quartz claims in this county heretofore located, upon which no permanent improvements have been made, will be declared forfeited within thirty days after the publication of these by-laws, unless the notice of location is renewed and recorded, if not already upon the records of the county, and labor expended upon the same in accordance with the foregoing regulations for holding quartz claims.

11.—QUARTZ REGULATIONS OF TUOLUMNE COUNTY, CALIFORNIA.

The following are the quartz regulations of Tuolumne county :

ARTICLE 1. The jurisdiction of the following laws shall extend over and govern all quartz mining property within Tuolumne county :

ART. 2 Each proprietor or locator of a quartz claim shall be entitled to one hundred and fifty (150) feet in length of the vein, including all its dips and angles ; also one hundred and fifty (150) feet on each side of said vein, together with the right of way on either side of said vein, to run tunnels and drifts any distance that may be necessary in order to work said vein ; provided that the right to one hundred and fifty (150) feet herein granted on each side of the vein shall not be deemed to conflict with or detract from the right of any subsequent locator who may discover a vein *outside* of said one hundred and fifty (150) feet, to follow *his vein* through said ground.

ART. 3. The original discoverer of a vein shall be entitled to hold three hundred (300) feet in length on said vein, by virtue of discovery.

ART. 4. No man shall, by virtue of pre-emption, be entitled to hold more than one claim on the same vein, except as provided in article third.

ART. 5. All quartz claims hereafter taken up or located shall be plainly marked by notices posted, containing the claimants' names and the number of feet claimed.

ART. 6. The parties locating a quartz claim shall put at least one full day's work on said vein in every thirty days, in order to hold the same. A day's work shall be eight hours' labor ; provided, however, that the sum of one hundred dollars (\$100) expended on said claim shall hold the same for six months from the date of its expenditure.

ART. 7. Any individual, company, or companies erecting machinery for working quartz shall, by virtue of said machinery, hold the vein or veins belonging to said individual, company, or companies.

ART. 8. These laws shall be in full force and effect from and after the first day of September, A. D. 1858.

11½.—QUARTZ REGULATIONS OF SACRAMENTO COUNTY.

ARTICLE 1. The jurisdiction of the following laws shall extend over all quartz mines and quartz mining property within the county of Sacramento.

ART. 2. Each proprietor of a quartz claim shall hereafter be entitled to two hundred feet of a quartz ledge or vein, and the discoverer shall be allowed two hundred feet additional. Each claim shall include all the dips, angles, and variations of the vein.

ART. 3. On the discovery of a vein of quartz, three days shall be allowed to mark and stake off the same, in such manner, by name of the owner, and number of the claim, or otherwise, as shall properly and fully identify such claims. Parties having claims may have a map or plan made and a copy filed with the recorder, if deemed requisite to more particularly fix the locality.

ART. 4. Work to the extent of sixty dollars in value or twenty days' faithful labor shall be performed by each company holding claims, within thirty days from the date of recording the same, as provided in article six of these laws, and the duly authorized representative of a company making oath that such money has been expended, or that such labor has been performed, shall be entitled to a certificate from recorder guaranteeing undisputed possession of such claims for the term of one year; and a like sum of money or amount of labor expended or performed within twenty days of each succeeding year, duly acknowledged as herein named, shall entitle the claimants or company, from year to year, to certificates of undisputed proprietorship and possession; and a company having a mill contracted for in good faith to the amount of five thousand dollars for the working of its claim or claims, the proper representative of the company making oath of the same, shall be entitled to receive from said county recorder a title-deed of said claim or claims, guaranteeing to the claimants or company, their successors or assigns, undisputed possession and proprietorship forever under these laws; provided that nothing in this article shall be at any time inconsistent with the laws of the United States.

ART. 5. Whenever the requisite amount of money or labor, as provided for in article four, has not been expended within sixty days from the adoption of these laws, the claim or claims thus neglected shall be considered abandoned, and subject to be located by any other party or parties.

ART. 6. Any person, a citizen of the United States, or any person having taken the necessary steps to become a citizen of the United States, shall be entitled to hold one quartz claim, as provided for in article second, and as many more as may be purchased in good faith for a valuable consideration, for which a certificate of proprietorship shall be issued by the recorder.

ART. 7. The discoverer of a new ledge or vein of quartz shall be entitled to two hundred feet for his discovery, and one claim additional, even though he is already in the possession of another claim taken up by himself, and the same benefit may be claimed for each and every discovery, although many discoveries may be made by one person.

(The above regulations were adopted by a meeting of the quartz miners of Sacramento county, held at Ashland, January 22, 1857, and are still in force. There are, however, very few quartz claims of any value in the county.)

12.—PLACER REGULATIONS OF COLUMBIA DISTRICT, CALIFORNIA.

The following regulations for the placer mining district of Columbia, Tuolumne county, California, are considered to be as good as any in the State:

ARTICLE 1. The Columbia mining district shall hereafter be considered to contain all the territory embraced within the following bounds: Beginning at the site of M'Kenny's old store, on Springfield flat, and running in a direct line to a spring on a gulch known as Spring gulch—said gulch running in a southern direction from Santiago Hill. Thence, in a direct line from said spring, to the angle of the road leading from Saw-mill flat to Kelly's ranch, near Wood's creek. Thence, running along the ridge on the west of Wood's creek, to the southern bounds of Yankee Hill district. Thence, following the ridge, to the high flume between Columbia and Yankee Hill. Thence, following the New Water Company's ditch, to Summit pass. Thence, in a direct line to the head of Experimental gulch—including said gulch. Thence, following the upland, to a point opposite Pine Log crossing. Thence, following the upland, to the head of Fox gulch, and including said gulch. Thence, following the upland around, the head of Dead Man's gulch, to the site of the Lawnsdale saw-mill. Thence in a direct line to the place of beginning.

ART. 2. A full claim for mining purposes, on the flats or hills in this district, shall consist of an area equal to that of one hundred feet square. A full claim

on ravines shall consist of one hundred feet running on the ravine, and of a width at the discretion of the claimant, provided it does not exceed one hundred feet.

ART. 3. No person or persons shall be allowed to hold more than one full claim, within the bounds of this district, by location; nor shall it consist of more than two parcels of ground, the sum of the area of which shall not exceed one full claim; provided nothing in this article shall be so construed as to prevent miners from associating in companies to carry on mining operations, such companies holding no more than one claim to each member.

ART. 4. A claim may be held for five days after water can be procured at the usual rates, by distinctly marking its bounds by ditches, or by the erection of good and sufficient stakes at each corner, with a notice at each end of the claim, followed by the names of the claimants, and by recording the same according to the provisions of article 10.

ART. 5. When a party has already commenced operations upon a claim, and is obliged to discontinue for want of water, or by sickness or unavoidable accident, the presence upon the ground of the tom and sluices, or such machines as are employed in working the claim, shall be considered as sufficient evidence that the ground is not abandoned, and shall serve instead of other notice; the bounds of the claim still being defined, except so far as the marks may have been obliterated by the work which has been done, or by other causes.

ART. 6. Claims shall be forfeited when parties holding them have neglected to fulfil the requirements of the preceding articles, or have neglected working them for five days after water can be procured at the usual rates, unless prevented by sickness or unavoidable accident, or unless the miners have provided by law to the contrary.

ART. 7. Earth thrown up for the purpose of washing shall not be held distinct from the claim from which it was taken, but shall constitute part and parcel of such claim.

ART. 8. Water flowing naturally through gold-bearing ravines, shall not be diverted from its natural course without the consent of parties working on such ravines; and when so diverted, it shall be held subject to a requisition of the party interested.

ART. 9. No Asiatics shall be allowed to mine in this district.

ART. 10. Any or all claims, now located, or that may be located and worked, can be laid over at any time, for any length of time not to exceed six months, by the person or persons holding the same appearing before the recorder of the district, with two or more disinterested miners, who shall certify over their own signatures that the said claim or claims cannot be worked to advantage, and by having the same recorded according to the laws of the district, and by paying a fee of one dollar; provided each claimant shall sign the record in person or by a legal representative, stating at the same time that said claim is held by location or by purchase.

ART. 11. There shall be a recorder elected, who shall hold the office for one year from the date of his election, or until his successor be elected, whose duty it shall be to keep a record of all miners' meetings held in the district; to record all claims, when requested by the claimants, in a book to be kept for that purpose, according to article 10; and to call miners' meetings, by posting notices throughout the district, when fifteen or more miners of the district shall present him with a petition stating the object of the meeting, and paying for printing notices; provided that, in the absence of the recorder, the above-named number of miners shall not be disqualified to call a meeting, at the place specified in article 16. He shall at all proper times keep his record book open for inspection.

ART. 12. No company or companies of miners, who may occupy the natural channel through any gulch or ravine for a tail-race or flume, shall have the ex-

clusive right of such channel, to the exclusion of any company of miners who may wish to run their tailings into the same.

ART. 13. Any party or parties locating claims in gulches or ravines where such flumes or tail-races exist, shall first confer with the party or parties owning said tail-races or flumes, for the use of the same on such conditions as they may agree upon; and in case of a disagreement, each party shall choose two disinterested miners, and the four shall choose a fifth, who may determine the matter or matters in dispute.

ART. 14. Any company or companies of miners shall have the right to run their water and tailings across the claim or claims below them, if it can be done without injury to the lower claims.

ART. 15. The limits of this district shall not be changed without the consent of a regularly called mass meeting of the miners of the district.

ART. 16. No miners' meetings held outside of Columbia, for the purpose of making laws to govern any portion of the district, or to amend these laws in any manner, shall be considered as legal.

ART. 17. All mining laws of this district, made previous to the foregoing, are hereby repealed.

13.—PLACER REGULATIONS OF NORTH SAN JUAN DISTRICT.

ARTICLE 1. The boundaries of the district of San Juan shall be as follows: On the east the public road leading to Hess's crossing; on the south the road leading from the village of San Juan to Kentz's tavern, and the ravine extending thence to Hatfield's crossing on the Middle Yuba; and on the west and north the Middle Yuba

ART. 2. The dimensions of a mining claim in this district shall not exceed one hundred and eighty feet in length by eighty feet in breadth.

ART. 3. No person shall be entitled to more than one claim by location, but the right to hold by legal purchase shall be unlimited.

ART. 4. To indicate possession of any claim or claims it shall be the duty of the owner or owners thereof, if not habitually at work thereon, to post on some conspicuous part of such claim or claims a notice stating the boundaries and dimensions thereof, and his or their intention thereon; and also to designate the prominent lines or corners thereof by suitable stakes or blazes. But in a claim or set of claims whereon work is being regularly performed, the presence of the owners thereof, or their representatives, shall be deemed a sufficient excuse for the absence of the notice hereinbefore specified.

ART. 5. It shall be the duty of the owners of all that class of claims specified in the first clause of article 4 (*i. e.*, those wherein work is not being regularly performed) to renew their notices once in every thirty days, except in the absence of water from the diggings, when it shall not be necessary.

ART. 6. If a person or persons in prospecting any claim or set of claims shall have expended thereon the sum of five hundred dollars in money or labor, (labor to be estimated at the rate of wages current at the time,) his or their right to such claim or claims shall be secure for the period of two years from the time such expenses were incurred; but after the expenditure of the said two years said rights shall be subject to the restrictions specified in articles 4 and 5 of these laws.

ART. 7. It shall be the duty of a recorder to be elected annually by the miners of the district; to make a record on application of the owners of the boundaries and dimensions of each and every claim or set of claims in the district, for which he shall be entitled to a fee of fifty cents for each record. On the sale or transfer of any claim in this district it shall be the duty of the purchaser to have such sale or transfer recorded.

ART. 8. It shall be the duty of all owners of claims that have been located or

purchased previous to the date of this meeting to have such claim recorded on or before the first day of December, A. D. 1854, and all claims located or purchased after the date of this meeting shall be recorded within one week from the time of said location or purchase.

The above regulations were adopted on the 5th November, 1854. North San Juan is the largest hydraulic mining district in California.

14.—PLACER REGULATIONS OF PILOT HILL.

The following are the regulations of the placer district of Pilot Hill, Calaveras county, California :

SECTION 1. Each tunnelling and shafting claim shall consist of one hundred feet in width to the man, and running through the hill on a parallel line with the commencement of the tunnel.

SEC. 2. That each company holding tunnel or shafting claims, in order to hold the same, shall be required to perform work to the amount of twenty-five dollars each week for a period not to exceed twelve months.

SEC. 3. That each gulch claim shall consist of one hundred and fifty feet in length by fifty in width to each man.

SEC. 4. That each surface claim shall consist of two hundred feet in length by one hundred feet in width to the man.

SEC. 5. That each gulch and surface claim shall be worked within three days after the date of location, if water can be obtained.

SEC. 6. That each tunnelling, shafting, gulch, and surface claim shall be marked off by stakes, or other marks, so that the boundaries of each claim can be distinctly traced.

(Pilot Hill and Kanaka Camp are not important districts, but their regulations are peculiar in some respects, and are therefore given here.)

15.—REGULATIONS OF NEW KANAKA CAMP.

The following are the regulations of New Kanaka Camp, in Tuolumne county :

ARTICLE 1. [This article describes the boundaries of the district.]

ART. 2. Creek claims shall be two hundred feet in length, and from bank to bank.

ART. 3. Gulch or ravine claims shall be two hundred feet in length and fifty in width.

ART. 4. All claims on bars or flats shall be two feet in length and fifty feet in width.

ART. 5. It shall be required that all claims be worked one full day in three, when permanent water can be had, except in cases of sickness or legal cause.

ART. 6. All miners are entitled to one claim by pre-emption and one by purchase; provided such claims purchased shall be, on investigation, found to have been obtained in a legal or *bona fide* manner.

ART. 7. Chinamen shall not be allowed to own claims in this district, either by purchase or pre-emption.

ART. 8. All persons who find it necessary to cut a tail-race to their claims shall have the privilege of cutting through any ground below them, owned by other parties, provided it will not result to the injury of such parties.

ART. 9. It shall be required of all persons owning claims in this district to designate the boundaries of said claims by digging a trench around the same.

ART. 10. All disputes arising in regard to mining shall be left to arbitration, each party to choose one man, and, in case of disagreement, they to choose an umpire.

ART. 11. Arbitrators in all cases, for services, shall be paid for all time consumed at the rate of three dollars per day.

ART. 12. All claims may be laid over, by having the same recorded, from the time ditch-water fails until it can be obtained again.

ART. 13. A recorder shall be chosen, whose duty shall be to keep a book of records, with the number of each claim recorded, from one to an unlimited number. It shall also be the duty of said recorder to go on to each and every claim recorded and post at either end of each claim a piece of tin, with the number stamped thereon, corresponding with the number on the book of record.

16.—REGULATIONS OF THE COPPEROPOLIS (COPPER) DISTRICT.

ARTICLE 1. This district shall be known as the Copper Cañon district.

ART. 2. The boundaries of this district shall be as follows, viz: Bounded on the north by the Angels' trail, east by Empire district, south by the O'Byrne Ferry district, and west by Black Oak, Four Spring Run, and Four Spring district.

ART. 3. A miner shall be entitled to one claim by location on a lead of one hundred and fifty feet in length and three hundred feet in width. Any miner discovering a new lead or vein shall be entitled to an extra claim of the above extent.

ART. 4. Claims shall be duly staked at each end, with at least one notice posted in a conspicuous place on the claim, with all the claimants' names therein, and such a notice shall be posted up as aforesaid once a year at least, and during the month of August, in the presence of witnesses.

ART. 5. Companies of miners having adjoining claims, and working together only one of such claims, shall hold good the balance of claims.

ART. 6. All claims, whether obtained by location or purchase, shall be represented in person or by proxy whenever they can be worked in conformity with the laws hereby prescribed.

ART. 7. There shall be one day's work done on each claim, or company's claim, once a month, commencing on the 1st of May and terminating on the 1st of December.

ART. 8. No claim shall be forfeited by sickness or legal inability of the claimant.

9. There shall be a recorder elected, whose duty it shall be to keep a correct copy of all claims in the district. It shall be the recorder's duty to visit the claims in person, and give an accurate description, landmarks, and also names of company occurring therein. His fee shall be fifty cents per claim.

ART. 10. When any dispute shall arise respecting claims in the district, each party shall select a disinterested miner to act as arbitrator to settle the matter in dispute, and if said arbitrators shall be unable to agree they shall choose another miner or referee, whose decision shall be final. All arbitrators and referees shall be chosen from the miners of this district.

Adopted August 3, 1860.

17.—STATUTE OF NEVADA CONCERNING MINING CLAIMS.

The following are the main sections of a statute of the State of Nevada approved February 27, 1866:

SECTION 1. Any six or more persons who are males of the age of twenty-one years and upwards, holding mining claims in any mining district, or who hold mineral lands not within the boundaries of any established mining district, may form a new mining district embracing said claims, at a meeting of such persons to be called by posting for five days in at least five conspicuous places within the limits of such proposed new district notices in writing stating the place and time for holding such meeting, describing as near as may be the limits of such proposed new district, and signed by not less than five of such persons. At

said meeting all males of the age of twenty-one years and upward holding mining claims, or any interest therein, within said limits, may vote, and by a majority vote determine whether said new mining district shall be established, and its boundaries, which shall be within the limits named in said notices; and thereafter the persons so qualified and holding mining claims in such newly established district shall proceed to select a name therefor and elect a district recorder, who shall be qualified as aforesaid. He shall perform all the duties required of him by law, and shall, within thirty days after qualifying, file and record in his office a record of the proceedings of said meeting. No district formed under the provisions of this act shall be divided by any county line. Mining districts now existing may be continued.

SEC. 22. On and after the second Saturday of July, 1866, all locations of mining claims shall be made in the following manner: On a monument not less than three feet high, firmly established in a conspicuous place on the claim, there shall be placed a plainly-written notice embracing a description of the ground claimed, the date of location, the name of the claim, the name of the company, and the names of the locators, with the number of feet claimed by each, and a copy of said notice, accompanied by a written request for a survey of said claim by the district recorder, shall, within thirty days after the making of such location, be filed in the office of the district recorder of the district in which said claim is located; and in case there be no legally authorized district recorder in and for the district, or the claim be outside of the limits of an organized mining district, then, and in that case, said notice may be filed in the office of the county recorder of the county in which said claim is located; and a written request for a survey by the county surveyor shall be served upon the county surveyor within a reasonable time thereafter; the county surveyor, or his deputy, shall perform all the duties required of a district recorder by the provisions of this act. He shall keep a record of all his transactions in such cases, and for such services he may charge and receive the same fees allowed by law for his services in like cases. Within thirty days after the making of such location there shall be done on said claim, as assessment work, to hold the same up to and including the day preceding the first Saturday of the then following August, excavation involving the removal of fifty cubic feet of earth or loose material, or five cubic feet of solid rock, for each two hundred feet in the claim; and, as soon as may be thereafter, said district recorder shall survey the same and record the notice of survey as provided in section 14 of this act; and said district recorder shall file and record a certificate in regard to the assessment work, which shall be substantially in the following form:

—— DISTRICT, —— COUNTY, NEVADA, —— DAY OF —— MONTH
OF —— YEAR.

This is to certify that on the —— claim governed by the —— company, surveyed on —— date, there has been done by or on behalf of said company sufficient work to hold said claim up to the first Saturday of August next.

——, *District Recorder.*

SEC. 23. Any person may locate mining claims in favor of others, but no person shall be entitled to hold by location more than two hundred feet of any one ledge, except by virtue of discovery of the same, for which he shall be entitled to hold two hundred feet additional. In the case of locations made as extensions, the location of two hundred feet by virtue of discovery is allowed. No claim shall, in the aggregate, exceed in extent two thousand feet on any one ledge.

SEC. 24. Any location made on a ledge by authority of this act shall be deemed to include all the dips, spurs, angles, and variations of said ledge. The locators of any ledge shall be entitled to hold one hundred feet on each side of

the same, not interfering with the mining rights previously acquired by others, and all dips, spurs, angles, variations, veins, cross-ledges, strings, and feeders within such area of two hundred feet, by the extent of the claim on the supposed line of the ledge as located, shall be considered as claimed and held by said locators as a part of said ledge, and no ledge in any claim subsequently located shall be followed and worked within the said area without the permission of the holders of said area. All measurement of boundaries shall be horizontal air-lines. Nothing in this act shall be so construed as in any manner to change the amount of ground that may be held in any mining claim located and held in accordance with district mining laws, but on and after the first Saturday of August, 1866, all such claims shall in all other respects be subject to the provisions of this act. Locations may be made on blind ledges in the same manner as on cropping ledges, and any person, company, or corporation finding a blind ledge in any excavation made by him or them shall, for ten days after finding the same, have the exclusive privilege of locating the same.

SEC. 25. No person shall become a locator in more than one claim on the same ledge, and any second location made on the same ledge by or in the name of a party already located on such ledge shall be void.

SEC. 26. The holders of any claim shall have the right to use so much of the land in the vicinity thereof as may be requisite for dumps, for the erection of the necessary buildings, machinery, and other works connected with said claim, and for the convenient development and working of the same. And in the development and working of the said claim they may sink shafts and inclines, and run drifts, tunnels, and cuts on any lands in said vicinity, but the prior owner of such lands shall be entitled to reasonable compensation for all damages sustained by reason of such dumps, the erection of such works, or the conducting of such operations. If the prior owners of any such lands have duly claimed the same as mining ground, they shall be entitled to all the ores taken out in the course of such operations, and shall not be interfered with in the conducting of their own mining operations on their own claims. The amount of such compensation shall be determined by a majority of three commissioners, one of whom shall be appointed by such prior owners, one by the party engaged in such development or working, and one by the two thus selected. The amount so fixed shall, within fifteen days after the fixing of the same, be paid to said prior owners, or deposited in the county treasury, subject to the order of said prior owners. Said commissioners shall, before entering upon their duties, take and subscribe to an oath, before some person duly qualified to administer the same, to make a true appraisalment thereof according to the best of their knowledge and belief.

SEC. 30. For the purposes of this act the term "foot," when used without qualification in relation to mining ground, is hereby declared to mean twelve lineal inches, horizontal air-line measurement, on the line of the ledge as located; the term "assessment work" is hereby declared to mean the work done partly, in order to hold a claim, and involving the excavation of fifty cubic feet of earth or loose matter, or five cubic feet of solid rock, for each two hundred feet in the claim; the term "assessment dues" is hereby declared to mean two cents for each foot in a claim, to be paid for the purpose of holding the same one assessment year; and the term "assessment year" is hereby declared to mean the period extending from and including the first Saturday of August of one year to and including the day immediately preceding the first Saturday of August of the following year. The doing of assessment work or the payment of assessment dues shall be regarded as evidence of intention to hold the claim on which or with reference to which the same was done or paid, for the period for which the same was done or paid. The payment of assessment dues shall be in lieu of the assessment work heretofore usually required as an evidence of intention to hold a mining claim for a specified period; and such payment shall not be required in any case where the holders of a mining claim are in good

faith, and to the extent specified in section thirty-two of this act, engaged in developing or working the same.

SEC. 31. On the first Saturday of August, 1866, at which time the first assessment year shall begin, this act shall supersede all district mining laws, and thereafter said laws shall be considered as repealed: *Provided*, Any and all rights heretofore acquired under and by virtue of such district mining laws shall be determined in accordance with said mining laws existing at the time when said rights were acquired. During the period extending from and including the first day of May, 1866, to and including the day immediately preceding the first Saturday of the following August, no claim shall become subject to relocation by reason of the non-performance of assessment work. Locations may be made under this act at any time on and after the second Saturday of July, 1866, at which time the district recorders elected under this act shall, if qualified, enter upon the discharge of their duties, and on and after said second Saturday of July no location shall be made under district mining laws.

SEC. 32. The doing of assessment work, or the payment of assessment dues, shall not be required in order to hold a claim during any assessment year, if during the year next preceding such assessment year there has been done on said claim, by or on behalf of the claimants thereof, an amount of work costing at a fair valuation not less than fifty cents for each foot in said claim; but in all other cases assessment work shall be done or assessment dues shall be paid as provided in this act. Assessment dues shall be paid for every assessment year by the parties holding the claim to the district recorder elected under this act, before the first Saturday of August commencing the assessment year for which they are paid, except as otherwise provided in this section.

SEC. 33. Except as otherwise provided in section 32, every mining claim located and held under district mining laws, on which before the first day of May, 1866, there has been work done involving the excavation of fifty cubic feet of earth or loose matter, or five cubic feet of solid rock, for each two hundred feet in such claim, shall be subject to assessment dues. On every mining claim located and held under district mining laws, on which such work has not been done before the first day of May, 1866, assessment work shall be done on or before the day immediately preceding the first Saturday of August, 1866. The doing of such assessment work or the paying of such assessment dues shall enable the owner of said claim to hold the same for the next ensuing assessment year, commencing on the first Saturday of August, 1866.

SEC. 34. The assessment work done within the thirty days after the location of a claim under this act, as provided in section 22, shall hold the same only up to the beginning of the assessment year following the date of said location, and for such next ensuing assessment year and for every year thereafter, except as provided in section 32 of this act, such claim shall be subject to assessment dues.

SEC. 45. The extraction of gold or other metals from alluvial or diluvial deposits, generally called placer mining, shall be subject to such regulations as the miners in the several mining districts shall adopt.

18.—REGULATIONS OF THE VIRGINIA DISTRICT, NEVADA.

The following are the regulations of the district of Virginia City, Nevada, adopted September 14, 1859:

ARTICLE 1. All quartz claims hereafter located shall be two hundred feet on the lead, including all its dips and angles.

ART. 2. All discoverers of new quartz veins shall be entitled to an additional claim for discovery.

ART. 3. All claims shall be designated by stakes and notices at each corner.

ART. 4. All quartz claims shall be worked to the amount of ten dollars or three days' work per month to each claim, and the owner can work to the

amount of forty dollars as soon after the location of the claim as he may elect ; which amount being worked shall exempt him from working on said claim for six months thereafter.

ART. 5. All quartz claims shall be known by a name and in sections.

ART. 6. All claims shall be properly recorded within ten days from the time of location.

ART. 7. All claims recorded in the Gold Hill record and lying in the Virginia district shall be recorded free of charge in the record of Virginia district, upon the presentation of a certificate from the recorder of the Gold Hill district certifying that said claims have been duly recorded in said district ; and said claims shall be recorded within thirty days after the passage of this article.

ART. 9. Surface and hill claims shall be one hundred feet square, and be designated by stakes and notices at each corner.

ART. 10. All ravine and gulch claims shall be one hundred feet in length, and in width extend from bank to bank, and be designated by a stake and notice at each end.

ART. 11. All claims shall be worked within ten days after water can be had sufficient to work said claims.

ART. 12. All ravine, gulch and surface claims shall be recorded within ten days after location.

ART. 13. All claims not worked according to the laws of this district shall be forfeited and subject to relocation.

ART. 14. There shall be a recorder elected, to hold his office for the term of twelve months, who shall be entitled to the sum of fifty cents for each claim located and recorded.

ART. 15. The recorder shall keep a book with all the laws of this district written therein, which shall at all times be subject to the inspection of the miners of said district ; and he is furthermore required to post in two conspicuous places a copy of the laws of said district.

19.—REGULATIONS OF REESE RIVER DISTRICT, NEVADA.

The following are the regulations of the Reese River district, Nevada :

SECTION. 1. The district shall be known as the Reese River mining district, and shall be bounded as follows, to wit : On the north by a distance of ten miles from the overland telegraph line, on the east by Dry creek, on the south by a distance of ten miles from the overland telegraph line, and on the west by Edward's creek, where not conflicting with any new districts formed to date.

SEC. 2. There shall be a mining recorder elected on the first day of June next for this district, who shall hold office for one year from the 17th of July next, unless sooner removed by a new election, which can only be done by a written call, signed by at least fifty claim-holders, giving notice of a new election to be held, after said notice shall have been posted and published for at least twenty days in some newspaper published in or nearest this district ; and the recorder shall be a resident of this district.

SEC. 3. It shall be the duty of the recorder to keep in a suitable book or books a full and truthful record of the proceedings of all public meetings ; to place on record all claims brought to him for that purpose, when such claim shall not interfere with or affect the rights and interests of prior locators, recording the same in the order of their date, for which service he shall receive one dollar (\$1) for each claim recorded. It shall also be the duty of the recorder to keep his books open at all times to the inspection of the public ; he shall also have the power to appoint a deputy to act in his stead, for whose official acts he shall be held responsible. It shall also be the duty of the recorder to deliver to his successor in office all books, records, papers, &c., belonging to or pertaining to his office.

SEC. 4. All examinations of the record must be made in the full presence of the recorder or his deputy.

SEC. 5. Notice of a claim of location of mining ground by any individual, or by a company, on file in the recorder's office, shall be deemed equivalent to a record of the same.

SEC. 6. Each claimant shall be entitled to hold by location two hundred feet on any lead in the district, with all the dips, spurs, and angles, offshoots, outcrops, depths, widths, variations, and all the mineral and other valuables therein contained, the discoverer of and locator of a new lead being entitled to one claim extra for discovery.

SEC. 7. The locator of any lead, lode, or ledge in the district shall be entitled to hold on each side of the lead, lode, or ledge located by him or them one hundred feet; but this shall not be construed to mean any distinct or parallel ledge within the two hundred feet other than the one originally located.

SEC. 8. All locations shall be made by a written notice posted upon the ground, and boundaries described, and all claimants' names posted on the notice.

SEC. 9. Work done on any tunnel, cut, shaft, or drift, in good faith, shall be considered as being done upon the claim owned by such person or company.

SEC. 10. Every claim (whether by individual or company) located shall be recorded within ten days after the date of location.

SEC. 11. All miners locating a mining claim in this district shall place and maintain thereon a good and substantial monument or stake, with a notice thereon of the name of the claim, the names of the locators, date of location, record, and extent of claim. It is hereby requested that owners in claims already located do comply with the requirements of this section.

SEC. 12. The recorder shall go upon the ground with any and all parties desiring to locate claims, and shall be entitled to receive for such service one dollar for each and every name in a location of two hundred feet each.

SEC. 13. It is hereby made the duty of the mining recorder, upon the written application of twenty-five miners, to call a meeting of the miners of the district by giving a notice of twenty days through some newspaper published in the Reese River district, which notice shall state the object of the meeting and the place and time of holding the same.

SEC. 14. The laws of this district passed July 17, 1862, are hereby repealed.

SEC. 15. These laws shall take effect on and after the fourth day of June, 1864.

20.—QUARTZ STATUTE OF THE STATE OF OREGON.

SECTION 1. That any person, or company of persons, establishing a claim on any quartz lead containing gold, silver, copper, tin, or lead, or a claim on a vein of cinnabar, for the purpose of mining the same, shall be allowed to have, hold, and possess the land or vein, with all its dips, spurs, and angles, for the distance of three hundred feet in length and seventy-five feet in width on each side of such lead or vein.

SEC. 2. To establish a valid claim the discoverer or person wishing to establish a claim shall post a notice on the lead or vein, with name or names attached, which shall protect the claim or claims for thirty days; and before the expiration of said thirty days he or they shall cause the claim or claims to be recorded as hereinafter provided, and describing, as near as may be, the claim or claims, and their location; but continuous working of said claim or claims shall obviate the necessity of such record. If any claim shall not be worked for twelve consecutive months it shall be forfeited and considered liable to location by any person or persons, unless the owner or owners be absent on account of sickness, or in the service of their country in time of war.

SEC. 3. Any person may hold one claim by location, as hereinafter pro-

vided, upon each lead or vein, and as many by purchase as the local laws of the miners in the district where such claims are located may allow; and the discoverer of any new lead or vein, not previously located upon, shall be allowed one additional claim for the discovery thereof. Nothing in this section shall be so construed as to allow any person not the discoverer to locate more than one claim upon any one lead or vein.

SEC. 4. Every person, or company of persons, after establishing such claim or claims, shall, within one year after recording or taking such claim or claims, work or cause to be worked to the amount of fifty dollars for each and every claim, and for each successive year shall do the same amount of work, under penalty of forfeiture of said claim or claims: *Provided*, That any incorporate company owning claims on any lead or vein may be allowed to work upon any one claim the whole amount required as above for all the claims they may own on such lead or vein.

SEC. 5 It shall be the duty of the county clerk of any county, upon the receipt of a notice of a miners' meeting organizing a miners' district in said county, with a description of the boundaries thereof, to record the same in a book to be kept in his office as other county records, to be called a "book of record of mining claims;" and, upon the petition of parties interested, he may appoint a deputy for such district, who shall reside in said district or its vicinity, and shall record all mining claims and water rights in the order in which they are presented for record; and shall transmit a copy of such record at the end of each month to the county clerk, who shall record the same in the above-mentioned book of record, for which he shall receive one dollar for each and every claim. It shall further be the duty of said county clerk to furnish a copy of this law to his said deputy, who shall keep the same in his office, open at all reasonable times for the inspection of all persons interested therein.

SEC. 6. Miners shall be empowered to make local laws in relation to the possession of water rights, the possession and working of placer claims, and the survey and sale of town lots in mining camps, subject to the laws of the United States.

SEC. 7. That ditches used for mining purposes, and mining flumes permanently affixed to the soil, be and they are hereby declared real estate for all intents and purposes whatever.

SEC. 8. That all laws relative to the sale and transfer of real estate, and the application of the liens of mechanics and laborers therein, be and they are hereby made applicable to said ditches and flumes: *Provided*, That all interests in mining claims known as placer or surface diggings may be granted, sold, and conveyed by bill of sale and delivery of possession, as in cases of the sale of personal property: *Provided further*, That the bills of sale or conveyances executed on the sale of any placer or surface mining claim shall be recorded within thirty days after the date of such sale, in the office of the county clerk of the county in which such sale is made, in a book to be kept by the county clerk for that purpose, to be called the record of conveyances of mining claims.

SEC. 9. Mortgages of interests in placer or surface mining claims shall be executed, acknowledged, recorded, and foreclosed as mortgages of chattels.

SEC. 10. The county clerk shall be entitled to a fee of one dollar each for every conveyance or mortgage recorded under the provisions of this act.

21.—QUARTZ STATUTE OF IDAHO.

The following is the statute of Idaho in regard to quartz claims:

SECTION 1. That any person or persons who may hereafter discover any quartz lead or lode shall be entitled to one claim thereon by right of discovery, and one claim each by location.

SEC. 2. That a quartz claim shall consist of two hundred feet in length along

the lead or lode by one hundred feet in breadth, covering and including all dips, spurs, and angles within the bounds of said claim, as also the right of drainage, tunnelling, and such other privileges as may be necessary to the working of said claim.

SEC. 3. The locator of any quartz claim on any lead or lode shall, at the time of locating such claim, place a substantial stake, not less than three inches in diameter, at each end of said claim, on which shall be a written notice specifying the name of the locator, the number of feet claimed, together with the year, month, and day when the same was taken.

SEC. 4. All claims shall be recorded in the county recorder's office, within ten days from the time of posting notice thereon: *Provided*, That when the claim located is more than thirty miles distant from the county seat the time shall extend to fifteen days.

SEC. 5. Quartz claims recorded in accordance with the provisions of section 4 of this act shall entitle the person so recording to hold the same to the use of himself, his heirs and assigns: *Provided*, That within six months from and after the date of recording he shall perform, or cause to be performed, thereon work amounting in value to the sum of one hundred dollars.

SEC. 6. Any person or persons holding quartz claims in pursuance of this act shall renew the notice required in section 3 at least once in twelve months, unless such claimant is occupying and working the same.

SEC. 7. The conveyances of quartz claims heretofore made by bills of sale or other instruments of writing, with or without seals, shall be construed in accordance with the local mining rules, regulations, and customs of miners in the several mining districts, and said bills of sale or instruments of writing concerning quartz claims without seals shall be *prima facie* evidence of sale, as if such conveyance had been made by deed under seal.

SEC. 8. Conveyances of quartz claims shall hereafter require the same formalities and shall be subject to the same rules of construction as the transfer and conveyance of real estate.

SEC. 9. The location and pre-emption of quartz claims heretofore made shall be established and proved when there is a contest before the courts, by the local rules, customs, and regulations of the miners in each mining district where such claim is located, when not in conflict with the laws of the United States or the laws of this Territory.

SEC. 10. This act to take effect and to be in force from and after its approval by the governor.

Approved February 4, 1864.

23.—STATUTE OF ARIZONA.

The following is the statute of Arizona on the registry and government of mines and mineral deposits, with the exception of the sections providing the manner in which the rights of miners shall be enforced by the courts:

SECTION 1. All mining rights on the public lands of the United States, as well as rights acquired by discovery on the lands of private individuals, are possessory in their character only, and such possessory rights shall be limited, regulated, and governed as hereinafter provided.

SEC. 15. Every mining claim or pertenencia is declared to consist of a superficial area of two hundred yards square, to be measured so as to include the principal mineral vein or mineral deposits, always having reference to and following the dip of the vein so far as it can or may be worked, with all the earth and minerals therein. But any mining district organized in accordance with the provisions of this chapter may prescribe the dimensions of said mining claim or pertenencia for such district: *Provided*, That in no case the dimensions so prescribed shall exceed the number of yards allowed by this section; and further

provided, That no such mining district shall diminish the extent of the territorial claim to one pertenencia, as defined in this section.

SEC. 16. Any person discovering or opening a vein or other mineral deposit in this Territory, not actually worked or legally owned by other parties or registered in accordance with this chapter, shall by properly denouncing and registering the same be entitled to claim and hold a possessory right to a tract of land to the extent of two mining claims or pertenencias, including the said vein or mineral deposit, and conforming as nearly as possible to the general direction thereof, each to be measured two hundred yards long by two hundred yards wide, the direction of the lines to be determined by the person claiming.

SEC. 17. If two or more persons are associated, and have formed a company for the exploration and working of mines, and one or several shall make discoveries of mineral deposits in consequence thereof, said company so engaged in exploration shall be entitled to denounce and register one discovery claim only upon each lode.

SEC. 18. It shall be lawful for the claimants of a mine or mineral lands to locate and take possession of public lands for a mill site and other necessary works connected therewith, which shall not exceed one quarter section, containing a stream or other water suitable for the purpose. They shall have a right to place a dam or other obstructions on such stream, and to divert its waters for the above uses and purposes. They shall, within the time and in the manner prescribed in this chapter for the registration and denouncement of mines, proceed to denounce and register the same with the clerk of the probate court, and they shall be known as auxiliary lands. And if within three years from the day their notice of claim is so recorded, they shall expend in fitting the same for a mill, or in placing a mill or reduction works thereon, the sum of one hundred dollars, they may cause the record of such work to be made and proceedings for confirming their title to be instituted as provided in section 29 of this chapter, with like effect, and receive a certificate of title as therein provided, conforming as nearly as they can to the requirements of that section. Instead of the work required by section 32 of this chapter they shall use the machinery or other works erected upon said land for mining purposes at least thirty days in each year. Such claims shall be subject to all the provisions of this chapter which are applicable to mining rights, and may be abandoned and relocated. All rights to auxiliary lands acquired under the laws of any mining district before this act takes effect shall be valid, and the owners of the same, upon complying with the provisions of this section, may take the like proceedings to confirm their titles, with a like effect.

SEC. 19. It shall be the duty of all claimants of mining claims, mineral lands, and auxiliary tracts, to at once define the extent and boundary of them as nearly as possible, by good substantial monuments or other conspicuous marks, in the presence of the recorder of the mining district, or of some witness who shall prove to the satisfaction of the recorder that the same has been done, and to post up a public notice of their claim at the opening of the principal vein, and to have them properly registered and recorded within three months from the time of first claiming them at the office of the mining district recorder according to the provisions of this chapter. Such record shall give a faithful description of the veins, mineral deposits, and tracts of lands, the character and bearing of the veins or deposits, and their connection with natural monuments or conspicuous objects in the vicinity.

SEC. 20. No person shall change his original monuments or boundaries of mineral or other lands, but if a subsequent investigation makes this convenient or necessary, and it can be done without prejudice to other parties, then such change shall take place by the sanction of the judge of the probate court, provided they are properly recorded, and the new boundaries and monuments fixed at once when the original ones are removed.

SEC. 21. All minerals, woods, waters, earths, and vegetation found within the boundaries of any tract of land registered and claimed for mining shall be exclusively used by him or them who are legally entitled to the possession of the land wherein or whereon they are situated, so long as they are used for mining purposes only: *Provided*, That no one shall have the right to prevent transient persons from using the waters along the public highways, where they were provided by nature in natural tanks, springs, streams, or otherwise, nor from making such equitable disposition of the waters as the legislature shall prescribe.

SEC. 22. No person shall have the right to impede or inconvenience traveling by fencing up the public roads, filling them up with rubbish, or undermining them so as to endanger their safety, neither shall any one change their established direction without sanction of the proper authorities.

SEC. 23. Whenever two or more persons or parties explore and prospect one and the same vein, and at or about the same time but at different places, and without knowledge of each other, then he or they who shall prove first occupancy shall have the right of first location, taking the principal point of excavation as the centre of their claim or claims on each side along the general direction of such vein or deposit. The other parties shall proceed by the same laws after the others have fixed their boundaries. Should there be left vacant ground between the different parties, then it shall be at the option of the first discoverers so to change their boundaries as shall best suit them, and have them recorded accordingly. Any other parties shall locate in the order of the time of their arrival on the vein or mineral deposit.

SEC. 24. Whenever two or more parties shall select the same mine or mineral deposit for exploration, and the parties first on the ground, knowing the other parties to be at work, shall fail to give warning, either verbally or in writing, of their priority claim on such vein or deposit, then that portion of the mine situated between the main excavations of the two parties shall be equally divided between them, irrespective of the number of members each company may have: *Provided*, That the intervening portions shall not exceed the quantity of land allowed by the provisions of this chapter.

SEC. 25. The laws and proceedings of all mining districts established in this Territory for the denouncement, registration, and regulation of mines, mining claims, mineral lands, and auxiliary lands, prior to the day this act takes effect, are hereby legalized and declared to be as valid and binding in all courts of law as if enacted by this legislative assembly, to the extent and under the conditions and restrictions herein contained.

I. All rights, claims, and titles to any veins, mineral lands, or mineral deposits, and auxiliary lands, acquired before this act takes effect, under, by virtue of, and in conformity to the laws of said mining districts, are hereby declared to be valid and legal, and shall be respected and enforced in all courts of this Territory, when sustained by the evidence herein provided; but no amount of work done thereon shall be construed to give a perpetual title thereto, but shall give such title only and such rights and privileges as is provided in section 29 of this chapter; and no person who was at the time of the location of his claim an inhabitant of this Territory shall forfeit his claim because he was not a resident also of the mining district in which his said claim was located. And no such right, claim, or title shall be considered as abandoned provided the claimant shall within six months from the day this act takes effect file with the clerk of the probate court of the county in which his claim is situated a brief description of the same, giving the name of the district in which the lode is situated, and of the lode or lodes, and the extent of his claim thereon, with a declaration that he intends to retain and work the same according to law, unless such claim has been forfeited and subject to relocation under the laws of such mining district before this act takes effect.

II. All records and all papers required by the laws of said mining districts to be deposited with the recorders of said districts for record shall be received as evidence of their contents in all courts of this Territory, and shall not be rejected for any defects in their form, when their contents may be understood, but shall be valid to the extent provided by said mining laws, except as hereinbefore restricted: *Provided*, That such records and papers are deposited with or recorded by the clerk of the probate court of the county in which said mining district is located, and within three months from the time this act takes effect; and if said records or papers are lost or mutilated, or if such recorder of a mining district shall neglect or refuse to deposit the same as aforesaid, an affidavit of their contents made by any person interested therein, or certified or sworn copies thereof, may be so recorded, and shall have the like effect.

III. All conveyances of mines, mining rights, mineral and auxiliary lands made prior to the time this act takes effect shall be valid and binding to pass the title of the grantor thereof, although defective in form and execution, if their contents can be understood, and as such shall be received and regarded in all courts of this Territory; *Provided*, That such conveyances shall be deposited with or recorded by the clerk of the probate court of the county where said mines are situated, within three months from the time this act takes effect, and if lost or mutilated, copies or affidavits of their contents, executed as aforesaid, may be recorded as provided above.

SEC. 26. Every recorder, register, clerk, or other recording officer, of every such mining district, or who has at any time acted as such recording officer, within three months after this act takes effect, shall deposit with the clerk of the probate court of the county in which said district or greater part thereof is situated, all records which he has so kept, and all papers deposited in his hands for record, and papers so made or deposited with his predecessors in said office, which are in his hands as aforesaid, or he shall so deposit certified copies of the same. And such records and other papers shall be securely kept by such clerk, open in office hours to public inspection, and copies of the same duly certified by him shall be received in all courts of justice, and have the same effect as the originals. And any such recorder, register, or other recording officer of each mining district who shall neglect or refuse to comply with the provisions of this section shall be liable in damages to the party injured thereby, and shall be liable to be punished by the judge of probate of the county in which said mining district, or the greater part thereof, is situated, for contempt, by fine not exceeding five thousand dollars and imprisoned not more than one year, and shall be incapable of holding any such office and mining claim.

SEC. 27. Mining districts now existing may be continued, or new mining districts may be established in the manner and for the purposes hereinafter provided.

I. The recorder of every mining district now existing shall at the same time that he deposits the records of said districts with the clerk of the probate court, as the last preceding section requires, take an oath before the judge of said court that he will faithfully perform the duties of his office until another recorder shall be elected and qualified in his place, which oath shall be recorded by the clerk of the probate court. He shall record in a book to be kept by him for that purpose all notices of claims or rights to veins, mineral deposits, mineral lands, and auxiliary lands which may be left with him to be recorded, and shall note on all papers which may be received by him to be recorded, the time when they were so received by him, and they shall be considered as recorded from that time. He shall, when requested by any such claimant, go with him to his claim and see that the same is measured by metes and bounds, and marked by substantial monuments on the surface of the earth, and shall make a record of the same, and of the time when it was done, and certify it to be correct, or shall make a record and certificate of the same on the evidence of a credible witness, who was present when the same was done, and is cognizant of the facts, and

whose name shall be entered on the record. He shall, when requested by any such claimant, go with him to his claim and examine any shaft that may be sunk by him, or tunnels that may be opened to the same, and make measurements of the same, and a record and certificate as aforesaid; and he shall in like manner examine, measure, or estimate, and make and record a certificate of any work which is required by law to be done by a claimant. And the said recording officer shall, quarterly, file with the clerk of the probate court of the county in which said district is located a copy by him certified of all records made by him for the three months last preceding, which shall be duly recorded by said clerk, and a copy of said record duly certified by him shall be evidence of its contents in all courts of this Territory. And such recording officer shall be liable to all the penalties provided in the preceding section if he shall neglect or refuse to perform any of the acts and duties required of him by this section, but shall not be required to perform any such service until his fees for the same, to be fixed by the mining districts, are paid him, if he requests it. And if any paper deposited with him for record is required to be recorded by the clerk of the probate court, he shall at the time said paper is so deposited with him take and receive the fee fixed by law for recording such paper by said clerk, and pay the said clerk said fee when he deposits said paper with him to be recorded as aforesaid. All such mining districts may make laws not inconsistent with the laws of the Territory, may elect officers for the government of such districts, and fix their compensation, but all such acts and proceedings shall be recorded, and all records and papers thereof filed with the clerk of the probate court as aforesaid.

II. Any number of persons, not less than twelve, owning mining claims in any mining district, or in any contiguous mining districts, or who have discovered and may wish to denounce a mine or mineral lands, not within the limits of any established mining district, may proceed to make a new mining district at a meeting of persons holding claims in such district so to be established, and of claimants in any districts to be divided or to be included therein. They shall cause a notice in writing, and specifying the limits of said contemplated district, signed by them, to be posted in three conspicuous places in said district, and if any part of an established district is to be included therein by leaving a copy of said notice with the recorder of said district at least ten days before the day of said meeting. At said meeting all persons holding claims as aforesaid may vote, and may determine by a majority vote of those present whether said new district shall be established, and its limits, but within the boundaries named in the notice for said meeting, and thereupon the persons holding claims in such newly established district shall proceed to select a name, and make laws therefor, and elect a recorder, who shall be qualified as aforesaid, who shall perform all the duties and be subject to all the liabilities provided in this chapter for such officers, and shall file with the clerk of the probate court as aforesaid a record of the proceedings of this and all subsequent meetings at the time and in the manner herein provided.

SEC. 28. It shall be the duty of all claimants of mineral tracts to sink at least one shaft of thirty feet in depth, or to run a tunnel of fifty feet in length, in the body of the vein or in the adjoining rock, so as to test the vein from the surface, for the purpose of ascertaining the character and capacity of such mineral deposit, within the space of one year from the day of first taking possession thereof, and they shall notify the recorder of the mining district that said shaft or other work is completed, and that they intend working the vein or mineral deposit. And the recorder shall examine said work in person, and make and record a certificate of the result of such examination, which shall contain a statement of the condition and quality of the vein or mineral deposit, the amount of labor performed, and a general view of the results obtained. Said report shall be accompanied by three specimens taken from different parts of the work, which said specimens, with a copy of the record so made by him, shall be filed

by him within the time required by this act in the office of the clerk of the probate court. And said clerk shall make a record of the same. Such specimens shall be numbered and described by him, and be preserved for the use of the mineralogical professorship of the University of Arizona.

SEC. 29. The judge of the probate court, at any time within thirty days after the record made by the clerk of said court, as provided in the preceding section, upon complaint in writing made to him by such claimants, describing fully their claims, stating the labor performed by them, and the certificate thereof, and that the registration of the same has been made as required by law, and requesting that their title thereto may be confirmed, shall cause a summons, under the seal of his court, to be issued, requiring all persons interested to appear at a day named therein, and which shall not be less than sixty days from the day the same was issued, and show cause why the title of such complainants and claimants should not be confirmed, a copy of which complaint and summons, duly attested by the clerk of the probate court, shall be published twice in the Territorial newspaper, and be kept posted in the office of said clerk from the day of issuing the same to the return day thereof; and if no person shall appear on such return day to contest the right of the claimants to such claims the judge of probate shall examine all the records filed in the office of his clerk relating to such claims, and if he finds that the said claimants have in all respects complied with the provisions of this chapter, he shall make a decree in substance that the complainants having complied with the laws of this Territory relating to the denouncement and registration of mines have acquired a perfect title to their claims (describing the same) until the 1st day of January, A. D. 1868, and forever after unless abandoned by them. And the said clerk shall give the said claimant a copy of such decree, under the seal of the court, which shall be conclusive evidence of title in any proceedings relating to such claims, until they are abandoned. And unless the persons adversely interested and contesting the title of the complainants shall appear on the day named in said complaint, and proceed as hereinafter provided, they shall be forever barred from contesting the title of said complainants to such claims. And if the contestants shall so appear they shall on that day or some day to be fixed by said judge proceed to file an answer, setting forth their claim and case, and the proceedings shall then be conducted in conformity to the provisions of this chapter and the code of civil practice. And whenever a final decree is made thereon, determining the title to said claim or mine, by said judge, or by any other court on appeal, the said judge shall cause a record to be made in the office of his clerk of such decree, and a certified copy thereof may be made as aforesaid, with the like effect. And any claimants of mineral lands who before this act takes effect have in any way or under any law acquired a title to such mineral lands, after filing with the clerk of the court their evidence of title and description of claim as required by this chapter, may cause an examination of the shaft sunk by them or other work done by them to be made as aforesaid, and take the like proceedings for the confirmation of their titles, with the same effect: *Provided*, This section shall not apply except when the complainants are in possession of such mine or mining rights, claiming title thereto.

SEC. 30. By reason of the Indian wars and unsettled condition of the country, the time within which a shaft is required to be sunk, or other labor performed on a claim, shall not commence until two years from the day this act takes effect, and all the provisions of this chapter relating thereto are suspended for that time; but any claimant may sink a shaft or do such other labor, and at any time after the record of their claims with the probate court, and thereupon institute proceedings to confirm their titles, and be entitled to all the rights and privileges provided for in this chapter.

SEC. 31. No single person or company shall be compelled to sink shafts or make other improvements on more than one of the tracts of land claimed by

him or them for the same vein or mineral deposit; and any number of claimants on the same vein or mineral deposit, who may unite for said purpose, shall be allowed to concentrate labor, capital, and energy to any one single point which to him or them shall be best suited to ascertain to the best advantage the general character, quality, and capacity of that particular vein or mineral deposit, and may take the like proceedings to confirm their titles.

SEC. 32. After the work required by section 28 of this chapter has been performed, and the record thereof made as therein provided, two years shall be allowed the claimants of mineral lands to develop the same, and procure machinery and provide for working the same; and during that time the same shall not be considered abandoned, although no work be done thereon: *Provided*, That, in such an event, they shall annually, and before the first day of June in each year, file with the clerk of the probate court an affidavit signed by them that they have not abandoned such claims, but intend, in good faith, to work them; and said term of two years shall not commence until the first day of January, A. D. 1868. And after the expiration of said term of two years, it shall be obligatory upon claimants to such mineral lands to hold actual possession of them and work the vein, which obligation shall be considered as complied with by doing at least thirty days' work thereon in each year; but if such claimants are prevented from working such vein by the hostility of Indians or other good cause, rendering said working difficult or dangerous, they may, by authority of the judge of probate first obtained, be relieved from performing labor thereon from time to time, but for not more than one year at any one time, during the continuance of such cause.

SEC. 33. Any person who may discover a mineral vein or deposit as aforesaid, which is not included within a mining district, or which may be in a mining district in which there is no legally authorized recorder, may acquire title thereto, and to auxiliary lands, by giving notice as aforesaid, and recording the same with the clerk of the probate court of the county in which the same is situated, and may take the same proceedings, with the like effect, with the clerk of the probate court that are required to be taken with the recorder of a mining district.

SEC. 34. Discoverers of mines on lands in the legal ownership or possession of others, and not public lands, before doing the work of sinking the shaft required by section 28 of this chapter, shall pay to such parties such compensation for the use of the same as may be awarded by the judge of probate upon complaint of either party, or shall give bond to such parties for payment of the same, and sureties to be approved by said judge; and whenever it becomes necessary or advantageous to construct tunnels for the purpose of drainage, ventilation, or the better hauling of ores or other subterranean products or mining materials, it shall be lawful for any party or parties to construct such tunnel or drift through all private and public property: *Provided*, That all damages arising from such subterranean works to the other parties, to be determined as provided above, shall be paid by the parties for whose benefit such tunnelling is done, to be paid before such work is commenced, or security given to the satisfaction of the judge of probate for the payment of the same; but no damages shall be paid on public lands when claims for such lands shall be set up after such tunnel shall have been projected or actually in process of construction: *Provided*, That the lapse of time between projection and actual work shall not exceed ninety days, and that the tunnelling parties give timely notice of their project to any new claimant of the so affected ground.

SEC. 35. Whenever such tunnel as mentioned in the preceding section shall intersect or traverse mineral deposits, or run along lodes claimed and held by other parties, then it shall be at the option of the owners of such other mineral deposits either to pay one-half of the expense of excavation for the distance that such tunnel runs through their mineral deposits, and secure the whole of

the ores excavated, or to divide the ores with the tunnelling parties, the latter paying all expenses of excavation; or it shall be optional with either party to abandon all claim to the ores excavated.

SEC. 36. If, in the construction of such subterranean works, new veins or deposits are encountered in ground not claimed or owned by other parties, they shall become the property of the party for whom such tunnel is constructed, and shall be denounced and registered as is required of new mines, and shall be governed by the same laws as are prescribed in this chapter.

SEC. 37. Any claimant or claimants not complying with any of the foregoing conditions and obligations shall forfeit all right to any such recorded or unrecorded claims to mineral and auxiliary tracts; and it shall not be lawful for him or them to register such claims anew within a period of three years after such forfeiture. All such tracts shall be free for working and registry to any but those excepted in this section.

SEC. 38. All veins and mineral deposits situated on public lands, which have not been worked and occupied from the time of the acquisition of the Territory by the United States up to the time of the passage of this chapter, except as herein provided, shall be considered as abandoned and subject to registry and denouncement.

SEC. 39. All veins and mineral deposits that have been or may be abandoned hereafter shall, in all cases and respects, be governed by the laws regulating the opening and working of new veins and deposits, as prescribed in this chapter.

SEC. 40. Whenever any mine, vein, or mineral deposit shall have been abandoned or forfeited in accordance with the provisions of this chapter, and registered anew by other parties, it shall be obligatory upon such parties to give the former owners warning thereof, so as to remove from the tract within the space of three months anything he or they may claim valuable or useful. Such warning shall be given in the nearest newspaper published in the Territory, and by posting it at three of the most conspicuous places in the county where the mine is situated. Three months after the expiration of such warning, any and all buildings, furnaces, arrastras, metals, and every other species of property which may still remain on the ground of such mine, vein, or mineral deposit, shall become the undisputed property of the new claimant, without compensation of any kind to any person whatever.

SEC. 41. Any person taking possession of or entering upon a mining claim or auxiliary lands, registered according to the provisions of this chapter, and before it is abandoned, shall be ousted therefrom in a summary manner by the order of the probate judge, and the malfeasor shall be adjudged to pay all damages and costs consequent thereon.

SEC. 51. It shall be the duty of persons who may discover and claim mining rights or mineral lands, at the same time that they may define the boundary of their claim or claims to any lode or mine as required by the provisions of this chapter, to lay off and define the boundary of one pertenencia as required by the provisions of this chapter, adjoining their claim or claims, which shall be the property of the Territory of Arizona. And at the same time that they present their notice of claim or claims to be recorded by the recorder of the mining district, they shall also present to such recorder the claim of said Territory. And if said discoverers and claimants shall neglect or refuse to present to such recorder the claim of said Territory as aforesaid, they shall forever forfeit all claim to the mine or ledge so discovered by them. Any recording officer recording the claim or claims of such discoverers and claimants, when the claim of said Territory is not filed therewith as aforesaid, shall be subject to all the penalties provided in section 26 of this chapter. Such claim shall be recorded as provided in this chapter for like claims, but no work shall be required to be done thereon, nor shall it be considered to be abandoned so long as it is the property of the Territory; and if sold, the time within which the purchaser

shall be required to work said claim shall commence from the day of sale, except when the time is suspended as before provided. Every clerk of the probate court, as soon as he records the said claim, shall send a copy of his record to the treasurer of the Territory, and no fees shall be charged by any recording officer in any matter relating to said claim. And the territorial treasurer may at any time after six months from the day he receives such record as aforesaid, and at such time and place as in his opinion will be most for the interest of the Territory, cause such claim to be sold at auction to the highest bidder, but every such sale shall be at least twice advertised in the territorial newspaper, and be held at his office, or the office of the clerk of the probate court, or recorder of the mining district of the county where the claim is situated. And the treasurer is authorized to make a deed of the same to the purchaser in the name of the Territory; and the amount received by him shall be added by him to any fund now or hereafter provided for the protection of the people of the Territory of Arizona against hostile Indians, and be expended as provided by law. And after all expenses as are incurred by the territorial authorities for the purpose of destroying or bringing into subjection all hostile Indian tribes in this Territory are liquidated, then all remaining or accruing funds, out of all or any sales of territorial mining claims, shall be applied as a sinking fund for school purposes.

SEC. 52. The extraction of gold from alluvial and diluvial deposits, generally termed placer mining, shall not be considered mining proper, and shall not entitle persons occupied in it to the provisions of this chapter, nor shall any previous section of this chapter be so construed as to refer to the extraction of gold from the above mentioned deposits.

SEC. 53. This chapter shall be in force and take effect from and after the 1st day of January, A. D. 1865.

23.—THE MINING LAWS OF MEXICO.

The following are extracts from the royal ordinance of the King of Spain, published in 1783, and ever since in force in Mexico. The translation is by Rockwell.* Only those portions of the ordinance are copied relating to the location, size, and tenure of claims. The sections not quoted are devoted mainly to a statement of the manner in which the miners are to enforce their legal rights:

CHAPTER IV.

SECTION 1. As it is most just and proper to reward with particularity and distinction those persons who devote themselves to the discovery of new mineral places and metallic veins found therein in proportion to the importance and utility of such discovery, I order and command that the discoverers of one or more mineral mountains, wherein no mine or shaft has been open before, acquire in the principal vein as much as three portions, together or separate, where it best pleases them, according to the measures hereafter signified; and that, on having discovered more veins, they shall acquire a portion in each vein, fixing on and marking the said portions within the term of ten days.

SEC. 2. The discoverer of a new vein in a mountain known and worked in other parts may hold in it two portions, together or separated by other mines, on condition that he specifies them within ten days, as mentioned in the preceding section.

SEC. 3. He who proposes for a new mine in a vein already known and worked in part is not to be considered a discoverer.

* A compilation of Spanish and Mexican law in relation to mines and titles to real estate in force in California, Texas, and New Mexico, and in the countries acquired under the Louisiana and Florida treaties when annexed to the United States. By J. A. Rockwell. New York, 1851.

SEC. 4. The person referred to in the preceding sections must present a written statement to the deputation of miners in that district, or in case there should not be one in that district, to the nearest thereunto, specifying in it his name, those of his associates, (if he has any,) the place of his birth, his place of habitation, profession, and employment, together with the most particular and distinguishing features of the tract, mountain, or vein of which he claims the discovery; all which circumstances, as well as the hour in which the discoverer shall present himself, must be noted down in a register kept by the deputation and clerk, (if they have one;) and after this the said written statement shall, for his due security, be restored to the discoverer, and notices of its object and contents shall be affixed to the doors of the church, the government houses, and other public buildings of the town for the sake of general notoriety.

And I ordain that within the term of ninety days the discoverer shall cause to be made in the vein or veins so registered a pit of a yard and a half in diameter or breadth and ten yards (varas) in depth, and that immediately on the existence of the vein being ascertained one of the deputies in person shall visit it, accompanied by the clerk, (if there is one,) or if there be no clerk, by two assisting witnesses and by the mining professor of that territory, in order to inspect the course and direction of the vein, its size, its inclination on the horizon, called its falling or declivity, its hardness or softness, the greater or less firmness of its bed, and the principal marks and species of the mineral; taking exact account of all this in order to add the same to the entry in the register, together with the act of possession, which must immediately be given to the discoverer in my royal name, measuring him his portion, and making him enclose it by poles at the limits as hereafter declared; after which, an authentic copy of the proceedings shall be delivered to him for the security of his title.

SEC. 5. If during the above-named ninety days any one should appear asserting a right to the said discovery, a brief judicial hearing shall be granted, and judgment given in favor of him who best proves his claim; however, if this should happen after the stated time, he (the new claimant) shall not be heard.

SEC. 6. The restorers of ancient mines which have been abandoned and left to decay shall enjoy the same privileges as discoverers, of choosing and possessing three portions in the principal vein and one in each of the others, and both revivers and discoverers shall, as an especial reward, be on all occasions preferred to other persons under parity of circumstances.

SEC. 7. If there arises any question as to who has been the first discoverer of a vein, he shall be considered as such who first found metal therein, even though others may have made an opening previously; and in case of further doubt, he who first gets it registered shall be considered as the discoverer.

SEC. 8. Whoever shall denounce in the terms hereafter expressed any mine that has been deserted and abandoned shall have his denouncement received, if he therein sets forth the circumstances already declared in section four of this chapter, the actual existence of the mine in question, the name of its last possessor, if he is acquainted with the same, and those of the neighboring miners, all of whom shall be lawfully summoned, and if within ten days they do not appear, the denouncement shall be publicly declared on the three following Sundays; this meeting with no opposition, it shall be signified to the denouncer that within sixty days he must have cleared and reinstated some work of considerable depth, or at least of ten yards perpendicular and within the bed of the vein, in order that the mining professor may inspect its course and inclination and all its peculiar circumstances as is declared in the above-named section four. The said professor should, if it is possible, examine the pits and works of the mine and see if they are decayed, destroyed, or inundated; whether they contain a draft pit or adit or are capable of such; whether they have an outer court, a whim, machines, rooms for habitation, and stables; and an account and register of all these circumstances must be entered in the corresponding book of de-

Denuncements, which should be kept separately. And the said examination being made, the portions being measured and bounded by stakes in the ground, as shall hereafter be explained, possession of them shall be given to the denouncer, without regard to any opposition, which cannot be attended to unless made within the term before described; however, if during that time any opposition is brought forward, the parties shall have a brief judicial hearing and the cause be determined accordingly.

SEC. 9. If the former mine owner should appear in order to oppose the denouncement when the three public proclamations are over and when the denouncer has commenced the sixty days allowed for reinstating the pit of ten yards, he shall not be heard as to the possession, but only as to his right in the property; and if he succeeds in establishing this, he must make good the expenses incurred by the denouncer, unless the latter is proved to have acted fraudulently, in which case he must lose such expenses.

SEC. 10. If the denouncer does not make or complete the shaft as prescribed, nor take possession within the sixty days, he loses his right, and any other person has the power of denouncing the mine. If, however, from the ground being entirely broken up or otherwise difficult and impracticable, or for any other real and serious obstacle he has been unable to complete the same within the said sixty days, he must have recourse to the respective territorial deputation, when, his difficulties being examined and proved, the period may be prolonged for as long a time as the deputation may think necessary for the purpose, and no more; no opposition to his claim being admitted after the ordinary term of sixty days.

SEC. 17. I prohibit any one (not being the discoverer) from denouncing two contiguous mines upon one and the same vein; but I permit any person to acquire and possess one by denouncement, and another or more by purchase, gift, inheritance, or other just title. And I further declare that if any one desires to attempt the re-establishment of several inundated or decayed mines, or other considerable enterprise of this kind, and for this purpose claims the grant of several portions, although they be contiguous and upon the same vein, such claim must be laid before the royal tribunal general of Mexico, in order that, the circumstances and importance of the undertaking being ascertained, they may acquaint the viceroy therewith, who, on finding therein nothing prejudicial to the body of the miners, the public, or my royal treasury, shall grant him this and other privileges, exemptions, and aids, on condition that my royal approbation is previously obtained to all such favors, which cannot be granted by the ordinary authority of the viceroy.

SEC. 18. Beds of ore and other depositories of gold and silver, on being discovered, shall be registered and denounced in the same manner as mines or veins, the same being understood of all species of metal.

CHAPTER VII.

SECTION 1. To all the subjects in my dominions, both in Spain and the Indies, of whatever rank and condition they may be, I grant the mines of every species of metal under the conditions already stated, or that shall be expressed hereafter, but I prohibit foreigners from acquiring or working mines as their own property, in these my dominions, unless they be naturalized or tolerated therein by my express royal license. (See decree of President Comonfort.)

SEC. 2. I also prohibit regulars of religious orders, of both sexes, from denouncing, or in any manner acquiring for themselves, their convents, or communities, any mines whatever; it being understood that the working of the mines shall not devolve upon the secular ecclesiastics, as being contrary to the laws, to the orders of the Mexican consul, and to the sanctity and exercise of their profession; and, therefore, in consequence of this prohibition, all such secular ecclesiastics shall be expressly obliged to sell or place in the hands of

lay subjects the mines or establishments for smelting ore, and reducing establishments which have devolved on them by inheritance or other cause, the same being completed within the term of six months, or within such time as may be considered necessary to insure a useful result, which is to be fixed by the viceroy, with a previous intimation to the royal tribunal general of the mines; provided, that if it is ascertained that by artifice or fraud the effects of this article are attempted to be eluded, to the prejudice of the working of such mines and establishments, in which the state is so much interested, they shall be denounced and disposed of in the same manner as mines in general.

SEC. 3. Neither shall mines be held by governors, intendents, mayors, chief judges, nor any other public officers whatever, of the mine towns and districts, nor their clerks; but I permit such persons to hold mines in any territory out of their own jurisdiction.

SEC. 4. Neither shall administrators, stewards, overseers, keepers of tallies, workers or watchers of mines, nor, in general, any person in the service of mine owners, whether of superior or subordinate class, be permitted to register, denounce, or in any other manner acquire mines within the space of a thousand yards round those of their masters, but I allow them to denounce any mine for their said masters, even though not authorized by them to do so, provided the aforesaid masters make good the denouncement in the terms prescribed by section eight of chapter six of these ordinances.

CHAPTER VIII.

SECTION 1. Experience having shown that the equality of the mine measures established on the surface cannot be maintained under ground, where in fact the mines are chiefly valuable, it being certain that the greater or less inclination of the vein upon the plane of the horizon must render the respective properties in the mines greater or smaller, so that the true and effective impartiality which it has been desired to show towards all subjects, of equal merit, has not been preserved; but, on the contrary, it has often happened that when a miner, after much expense and labor, begins at last to reach an abundant and rich ore, he is obliged to turn back, as having entered on the property of another, which latter may have denounced the neighboring mine, and thus stationed himself with more art than industry. This being one of the greatest and most frequent causes of litigation and dissension among the miners, and considering that the limits established in the mines of these kingdoms, and by which those of New Spain have been hitherto regulated, are very confined in proportion to the abundance, multitude, and richness of the metallic veins which it has pleased the Creator of his great bounty to bestow on these regions, I order and command that in the mines where new veins, or veins unconnected with each other, shall be discovered, the following measures shall in future be observed.

SEC. 2. On the course and direction of the vein, whether gold, silver, or other metal, I grant to every miner, without any distinction in favor of the discoverer, whose reward has been specified, two hundred yards, (Spanish yards or varas,) called measuring yards, taken on a level, as hitherto understood.

SEC. 3. To make it what they call a square, that is, making a right angle with the preceding measure, supposing the descent or inclination of the vein to be sufficiently shown by the opening or shaft of ten yards, the portion shall be measured by the following rule.

SEC. 4. Where the vein is perpendicular to the horizon, (a case which seldom occurs,) a hundred level yards shall be measured on either side of the vein, or divided on both sides, as the miner may prefer.

SEC. 5. But where the vein is in an inclined direction, which is the most usual case, its greater or less degree of inclination shall be attended to in the following manner.

SEC. 6. If to one yard perpendicular the inclination be from three fingers to

two palms, the same hundred yards shall be allowed for the square, (as in the case of the vein being perpendicular.)

SEC. 7. If to the said perpendicular yard there be an inclination of—

Two palms and three fingers, the square shall be of $112\frac{1}{2}$ yards.

Two palms and six fingers, the square shall be of 125 yards.

Two palms and nine fingers, the square shall be of $137\frac{1}{2}$ yards.

Three palms, the square shall be of 150 yards.

Three palms and three fingers, the square shall be of $162\frac{1}{2}$ yards.

Three palms and six fingers, the square shall be of 175 yards.

Three palms and nine fingers, the square shall be of $187\frac{1}{2}$ yards.

Four palms, the square shall be of 200 yards.

So that if to one perpendicular yard there correspond an inclination of four palms, which are equal to a yard, the miner shall be allowed two hundred yards on the square on the declivity of the vein, and so on with the rest.

SEC. 8. And supposing that in the prescribed manner any miner should reach the perpendicular depth of two hundred yards, without exceeding the limits of his portion, by which he may commonly have much exhausted the vein, and that those veins which have greater inclination than yard for yard, that is to say, of forty-five degrees, are either barren or of little extent, it is my sovereign will that although the declivity may be greater than the above-mentioned measures, no one shall exceed the square of two hundred level yards; so that the same shall be always the breadth of the said veins extended over the length of the other two hundreds, as declared above.

SEC. 9. However, if any mine owner, suspecting a vein to run in a contrary direction to his own, (which rarely happens,) should choose to have some part of his square in a direction opposite to that of his principal vein, it may be granted to him, provided there shall be no injury or prejudice to a third person thereby.

SEC. 10. With regard to the banks, beds, or any other accidental depositories of gold or silver, I ordain that the portions and measures shall be regulated by the respective territorial deputations of miners, attention being paid to the extent and richness of the place and to the number of applicants for the same, with distinction and preference only to the discoverers; but the said deputations must render an exact account thereof to the royal tribunal general of Mexico, who will resolve on the measures which they in their judgment may consider the most efficacious, in order to avoid all unfair dealing in these matters.

SEC. 11. The portions being regulated in the manner described above, the denouncer shall have his share measured at the time of taking possession of the mine, and he shall erect around his boundaries stakes or landmarks, such as shall be secure and easy to be distinguished, and enter into an obligation to keep and observe them forever without being able to change them; though he may allege that his vein varied in course or direction, (which is an unlikely circumstance;) but he must content himself with the lot which Providence has decreed him, and enjoy it without disturbing his neighbors; if, however, he should have no neighbors, or if he can, without injury to his neighbors, make an improvement, by altering the stakes and boundaries, it may be permitted him in such case, with previous intervention, cognizance, and authority of the deputation of the district, who shall cite and hear the parties, and determine whether the causes for such encroachment are legitimate.

CHAPTER IX.

SEC. 6. If any mine owner, in consequence of the great richness of the metallic substance in his vein, is desirous of substituting for the pillars, beams, or sufficient and necessary supports, made of the metallic substance itself, others

constructed of mason work of stone and mortar, he may be permitted to do so under the inspection of one of the deputies of the district, assisted by his clerk' and with the approbation of the mining professor.

SEC. 7. I strictly prohibit any one from taking away or in any degree weakening and diminishing the pillars, beams, and necessary supports of the mines, under pain of ten years' imprisonment, to be inflicted according to the form prescribed by chapter three of these ordinances, by the respective judge in each case, upon any workman, searcher, or investigator who shall have committed such offence, and the same upon the miner or mine watcher who has permitted it; and the master of the mine shall lose the same, together with half of his property, and be forever excluded from all mining employments.

SEC. 8. I ordain and command that the mines shall be kept clean and unobstructed, and that the works necessary or useful for the circulation of air, the carriage and extraction of the metal or other purposes, although they may contain no more metallic matter than such as may remain in the pillars and partitions, shall not be encumbered with rubbish and clods of earth, but that all these must be carried out and thrown by each person on the earth-mound of his own property, but on no account upon that of another person without his express leave and consent.

SEC. 9. In the mines there must be proper and safe steps or ladders, such and as many as are considered necessary by the mining surveyor, for the purpose of ascending and descending to the farthestmost works, so that the lives of persons employed in the mines may never be endangered by their being weak, insecure, rotten, or much worn.

SEC. 10. In order to avoid the violation of the provisions of any of the sections contained in this chapter, it is my sovereign will that the deputies of the miners, accompanied by the mining professor of the district, and by the clerk, if there be one, or, in default of him, by two witnesses in aid, who shall once in every six months, or once in every year, in places where the former is impracticable, visit all the mines in their jurisdiction which are in a course of actual working; and if they find any failure in the points referred to in the above-mentioned sections, or in any others whatever, which regard the security, preservation, and better working of the mines, shall provide immediately a remedy for such defect, and take means to assure themselves that such remedy is carried into effect. And if the remedy be not applied, or if the same failure shall occur again, the proper penalties must be exacted, multiplying and aggravating them even to the extent of dispossessing the person so offending of the mine, which shall then belong to the first person who may denounce it, provided the deputies proceed in the form prescribed by chapter third of these ordinances.

SEC. 11. I most rigorously prohibit all persons from piercing through adits, or cross levels, or other subterraneous passages, from works which are higher and full of water, or from leaving between them and others such slight supports as may allow the water to burst through; on the contrary, persons owning such works must have them drained by engines before they shall attempt to communicate with new ones, unless the mining professor should judge that such piercing through will not be attended with danger to the workmen engaged in it.

SEC. 12. Also I prohibit all persons from introducing workmen into any works containing noxious vapors, until they have been properly ventilated, according to the rules of art.

SEC. 13. Whereas the mines require incessant and continual working, in order to procure the metals, certain operations being indispensable, which cannot without much time be accomplished, and which, if interrupted, generally require as great expenses in their re-establishment as they did in their original undertaking; wherefore, to remedy such inconvenience, and also to prevent masters of mines, who either cannot or will not work them, from keeping them in a useless state for a length of time, by pretending to work them, and thus depriving

them of the real and effective labor which others might bestow on them, I ordain and command, that whosoever, during four successive months, shall fail to work any mine with (at least) four paid workmen, occupied in some exterior or interior work of real utility, shall, by so doing, lose all his right in said mine, which shall belong to any person denouncing it, upon his satisfactory proving, according to the provisions of chapter six, such act of desertion on the part of the owner.

SEC. 14. Experience having shown that the provisions of the preceding section have been eluded by the artful and fraudulent practice of some owners of mines, who cause their mine to be worked during some days in each [period of] four months, keeping them in this manner many years in their possession, I ordain that whosoever shall fail to work his mine in the manner prescribed by the said section during eight months in the year, counting from the day of his coming into possession, even though the said eight months should be interspersed with some days or weeks of labor, shall by such labor forfeit the mine; and it shall be adjudged to the first person who denounces the same, and satisfactorily proves this second species of desertion; unless for this, or the one mentioned in the preceding section, there be just cause assigned, such as pestilence, famine, or war, in that same mining place, or within twenty leagues thereof.

SEC. 15. Considering that many mine owners who have formerly worked their mines with ardor and diligence, expending large sums in shafts, adits, and other undertakings, may often be obliged to suspend their operations while soliciting supplies, or for want of workmen, or necessary provisions, and other just and sufficient causes, which, combined with their former merit, render them worthy of equitable consideration, I declare that any such mine owner keeping his mine in disuse in the manner and for the time above mentioned shall not forfeit it at once in the manner described above, but his mine shall nevertheless be liable to denouncement before the respective new tribunals of miners, in order that, both parties having been heard, and alleged merits and causes considered and proved, justice may be done between the parties.

SEC. 16. Since many mine owners abandon their mines either for the want of the capital necessary for carrying on operations therein, or because they do not choose to consume that which they may have already acquired from them, or because they have not spirit to venture on the difficulties of those undertakings, from which they may have conceived great hopes, or for other causes, and since persons are not wanting who might be desirous of taking such mines if they were informed of their intended abandonment, and as it is much easier to maintain a mine when in a course of working than to reinstate it after it has suffered the injuries of time, it is my will that no person shall abandon the working of his mine or mines without making the deputation of the district acquainted therewith, in order that the deputation may publish the same by fixing a notification on the doors of churches and other customary places for the information of all persons.

SEC. 17. In order to avoid the false or equivocal reports which are often spread concerning deserted mines, the consequence of which reports is to augment the distrust in which this profession is ordinarily held, deterring many persons from engaging therein who do not otherwise want inclination to follow it, I ordain:

SEC. 18. That no one shall abandon the working of his mine without giving notice to the respective deputation in order that an inspection may immediately be had thereof by the deputies, accompanied by the clerk and surveyors, who must examine and measure the mine, particularizing all its circumstances, and draw up a map describing its plan and outlines, which, together with all the necessary information, must be preserved in the archives, with liberty of access to all persons who may wish to see it, or to take a copy thereof.

CHAPTER XI.

SECTION 1. Inasmuch as mines are often worked by miners joined in companies, from the time of the denouncement of such mine, or according to contracts entered into subsequently in various ways, to the great advantage and improvement of the operations in mines, since it is much easier to engage therein when many persons concur, each subscribing a part of his capital; and as where the wealth of one alone is not sufficient for great undertakings, that of a united company may be ample; in such cases I desire and command that such companies, whether public or private, may be encouraged, promoted, and protected by all convenient measures, my viceroy granting to those who may form themselves into such companies every favor, aid, and exemption which can be granted them, according to the judgment and discretion of the royal tribunal of miners, and without detriment to the public or my royal treasury.

SEC. 2. Although by these ordinances I prohibit any individual mine-owners, working within the ordinary limits, from denouncing two adjoining mines on the same vein; yet, notwithstanding, to those who work in companies, although they be not the discoverers, and without prejudice to the right which they might derive from becoming discoverers, I grant the right of denouncing four new portions, or four deserted mines, even though they should be contiguous and on the same vein.

SECTION 12.

Books on California.—2. Table of distances.

1.—BOOKS ON CALIFORNIAN MINES.

California has been the subject of hundreds of books written since the discovery of gold; but most of them were notes of personal adventure, with a few rambling and vague remarks about the mineral resources and mining industry of the Pacific coast.

Nevertheless, although only a small proportion of the works published about the land of gold, the Californian contributions to mining literature are not unimportant; and when the State geological survey shall have completed its labors and published all its reports, it may safely be said that few countries have done so much in so brief a space of time to illustrate the metallurgy, mineralogy, and geology of the precious metals.

The following are titles of some of the books that treat of the mineral resources and mining industry of the coast:

Geology and Industrial Resources of California. By Philip T. Tyson. To which is added the official reports of General Persifer F. Smith and B. Riley, including the reports of Lieutenants Talbot, Ord, Derby, and Williamson, of their explorations in California and Oregon, and also of their examination of routes for railroad communication eastward from those countries. Baltimore: 1851. 8vo., pp. 160.

Professor John B. Trask's Report on the Geology of the Sierra Nevada or California Range. Document No. 59, Senate of California. 1853. 8vo., pp. 30.

Report on the Geology of the Coast Mountains and part of the Sierra Nevada, embracing the Industrial Resources in Agriculture and Mining. By John B. Trask. Document No. 9, Senate of California. 1854. 8vo., pp. 90.

Report of a Geological Reconnaissance in California, made in connection with the expedition to survey routes in California to connect with the surveys of routes for a railroad from the Mississippi river to the Pacific ocean, under the command of Lieutenant Williamson, corps topographical engineers, in 1853. By William P. Blake, geologist and mineralogist of the expedition. New York. H. Bailliere, 1858. 4to, pp. 600.

Geology of North America, with two reports on the Prairies of Arkansas and Texas, the Rocky Mountains of New Mexico, and the Sierra Nevada of California, originally made for the United States government by Jules Marcon. Zurich, 1858. 4to, pp. 144.

General Report upon the Geological Collections of the Pacific Railroad Survey, by William P. Blake, geologist of the office of the United States Pacific railroad explorations and surveys. 4to, pp. 50. (In vol. iii of Explorations and Surveys for a Railroad Route from the Mississippi River to the Pacific Ocean.)

Report upon the Geology of the Route from San Francisco Bay to the Columbia River, by J. S. Newberry, M. D., geologist and botanist of the expedition. 4to., pp. 84. (In vol. vi of Explorations, &c., as above.)

Geological Report on the Route from San Francisco to Santa Fé, by way of the Coast and the Gila, by Thomas Antisell, M. D., geologist of the expedition. 4to., pp. 204. (In vol. vii of Explorations, &c., as above.)

Mining on the Pacific States of North America, by John S. Hittell. San Francisco, 1861. 18mo., pp. 224.

The Resources of California, comprising agriculture, mining, geology, climate, commerce, &c., and the past and future development of the State, by John S. Hittell; second edition, with an appendix on Oregon and Washington Territory. San Francisco, 1866. 12mo., pp. 494.

The Comstock Lode, its character, and the probable mode of its continuance in depth, by Ferdinand Baron Richthofen, (Dr. Phil.) San Francisco, 1866. 8vo, pp. 83.

Nevada and California Processes of Silver and Gold Extraction, for general use, and especially for the mining public of California and Nevada, with full explanations and directions for all metallurgical operations connected with silver and gold, from a preliminary examination of the ore to the final casting of the ingot; also a description of the general metallurgy of silver ores. By Guido Kustel, mining engineer and metallurgist, former manager of the Ophir works, &c. Illustrated by accurate engravings. San Francisco, 1863. 8vo, pp. 330.

2.—TABLE OF DISTANCES.

FROM SAN FRANCISCO.		Northern towns.		Miles.		End of Wood Island.....		Miles.	
BY OCEAN; NAUTICAL MILES.						Rio Vista.....		5 68	
<i>Up the coast.</i>						Cache creek.....		1 84	
Tomas, Cal.....	45	Sacramento.....		117		Hog's Back.....		4 78	
Mendocino City, Cal.....	128	Marysville.....		171		Mouth of Steambo't slough.....		6 84	
Humboldt bay, Cal.....	223	Downieville.....		236		Head of Steamboat slough.....		6 90	
Trinidad, Cal.....	239	Oroville.....		197		Head of Randall's island.....		6 96	
Crescent City, Cal.....	280	Red Bluff.....		264		Grape Vine ranch.....		5 101	
Port Orford, Oregon.....	338	Weaverville.....		365		Embarcadero.....		8 109	
Umpqua river, Oregon.....	402	Yreka.....		401		Sutterville.....		9 118	
Columbia river, Oregon.....	550	Jacksonville, Oregon.....		463		Sacramento.....		3 121	
Astoria, Oregon.....	559	Salem, Oregon.....		710					
Portland, Oregon.....	642	Portland, Oregon.....		760					
Vancouver, W. T.....	632	Olympia, W. T.....		850					
Cape Flattery, W. T.....	683	Folsom.....		138					
Port Angeles, W. T.....	738	Nevada.....		182					
Port Townsend, W. T.....	773	<i>Overland route.</i>				SAN FRANCISCO TO SAN DIEGO.			
Seattle, W. T.....	807	Placerville.....		165		<i>Via coast road.</i>			
Steilacoom, W. T.....	836	Carson City, N. T.....		253		San Francisco to—			
Olympia, W. T.....	855	Humboldt mines, N. T.....		420		San Mateo.....		21	
San Juan island, W. T.....	765	Great Salt Lake City.....		784		Redwood City.....		10 31	
Bellingham bay, W. T.....	798	South Pass.....		1,035		San Jose.....		19 50	
Victoria, V. I.....	753	St. Joseph, Mo.....		1,975		Gilroy.....		32 82	
New Westminster, B. C.....	823	St. Louis, Mo.....		2,279		San Juan.....		12 94	
		New York City.....		3,417		Monterey.....		36 130	
		<i>Southern towns.</i>				San Antonio.....		75 205	
		Stockton.....		117		San Luis Obispo.....		43 248	
		Copperopolis.....		153		Santa Inez.....		68 316	
		Mokelumne Hill.....		178		Santa Barbara.....		42 358	
		Big Trees.....		198		San Buenaventura.....		30 388	
		Sonora.....		197		Los Angeles.....		100 488	
		Mariposa.....		211		San Gabriel ranch.....		10 498	
		Yosemite Valley.....		247		Anaheim.....		15 513	
		Visalia.....		308		Aliso ranch.....		22 535	
		<i>Coast road.</i>				San Juan mission.....		7 542	
		Redwood City.....		31		San Mateo ranch.....		11 553	
		San Jose.....		51		Los Flores.....		11 564	
		San Juan.....		94		San Luis Rey.....		10 574	
		Monterey.....		130		Los Encinitas.....		18 592	
		San Luis Obispo.....		234		Soledad ranch.....		15 607	
		Santa Barbara.....		344		San Diego.....		15 622	
		Los Angeles.....		444					
		San Diego.....		576		SACRAMENTO TO RED BLUFF.			
		<i>Butterfield route.</i>				<i>Via Sacramento river.</i>			
		San Bernardino.....		504		Sacramento to—			
		Fort Yuma.....		732		Russian Crossing.....		12	
		Tucson, Arizona.....		1,013		Fremont.....		14 26	
		Mesilla, Arizona.....		1,306		Charleston.....		10 36	
		St. Louis, via Arizona.....		2,681		Knight's landing.....		10 46	
		SAN FRANCISCO TO SACRAMENTO.				Eagle Bend.....		8 54	
		<i>By steamer.</i>				Old Eagle Bend.....		5 59	
		San Francisco to—				Three Rivers.....		5 64	
		Opposite Alcatraz island.....		2 6		Poker Bend.....		5 69	
		South end Angel island.....		4 6		Howell's.....		5 74	
		North end Angel island.....		1½ 7½		Big Eddy.....		5 79	
		Red Rock.....		5 12½		Dry Slough.....		8 87	
		Brothers.....		2 14½		Eddy's.....		8 95	
		Pinola.....		4 18½		Twenty-Mile island.....		10 105	
		Mouth of Straits.....		6½ 25		Font's ferry.....		7 112	
		Benicia.....		5 30		Butte creek.....		6 118	
		Navy Point.....		1 31		Colusa.....		7 125	
		Point Edith.....		3 34		Sherman's.....		7 132	
		Seal Island.....		1 35		Snyder's.....		4 136	
		Point Gillespie.....		3 38		Nine-Mile house.....		5 141	
		Point Roe.....		1 39		Bogg's.....		5 146	
		Snag Point.....		2 41		Princeton.....		5 151	
		New York Slough.....		5½ 46½		Butte City.....		7 158	
		Point Hanson.....		2½ 49		Cut Off.....		7 165	
		Montezuma Island.....		2 51		Pike's.....		5 170	
		Tree island.....		4 55		Plaza City.....		9 179	
		Twin Houses.....		3 58		Jennings.....		9 188	
		Sacket Hog Bend.....		6 62		Monroeville.....		3 191	
		San Joaquin Slough.....		1 63		Big Chico.....		8 199	
						Bidwell's.....		6 205	
						Soule Landing.....		7 212	
						Snadon's.....		8 220	
						Gazelle shoot.....		6 226	
						Moon's.....		6 232	
						Mayhew's.....		8 240	
						Tehama.....		8 248	
						Doll's ranch.....		11 259	
						Red Bluff.....		11 270	

2.—Table of distances—Continued.

SACRAMENTO TO VIRGINIA CITY.

Via Dutch Flat.

	Miles.
Sacramento to—	
Auburn	40
Illinoistown	18 58
Dutch Flat	12 70
Wilson's ranch	14 84
Summit valley	16 100
Donner Cabins	9 109
O'Neal's bridge	21 130
Steamboat Springs	15 145
Virginia City	12 157

Via Henness Pass.

Sacramento to—	
Colfax	55
Madden's	61
Dutch Flat	69
Zeus	78½
Polly's	89½
Jones's	100
Donner lake	110
Prosser creek	120½
Chamberlin's	128½
Brown's	135½
Hunter's	145½
Virginia City	157½
Virginia City to the Hum- boldt mines	150
Virginia City to Aurora	116

SACRAMENTO TO SALT LAKE CITY.

Via Austin, (Reese river,) Nevada.

Sacramento to—	
Folsom	22
Latrobe	15 37
Shingle Springs	8 45
Placerville	8 53
Sportsman's Hall	11 64
Riverside station	10 74
Webster's	9 83
Strawberry valley	11 94
Summit	3 97
Yank's	8 105
Lake Tahoe	9 114
Genoa	10 124
Carson City	14 138
Virginia City	16 154
First well	13 167
Second well	7 174
Third well	12 186
Eighteen-Mile post	8 194
Ragtown	12 206
Slough bridge	16 222
Sand Springs	16 238
West Gate	22 260
Cold Springs	14 274
Edward's creek	12 286
Mount Airy	15 301
Jacobsville	13 314
Austin	6 320
Simpson's park	16 336
Dry creek	21 357
Robert's creek	29 386
Diamond Springs	25 411
Ruby valley	24 435
Butte station	19 454
Shell creek	30 484
Antelope Springs	19 503
Deep creek	24 527
Willow Springs	42 569
Fish Springs	21 590
Simpson's Springs	39 629
Rush valley	23 652
Fort Crittenden	17 669
Great Salt Lake City	41 710

SACRAMENTO TO PORTLAND.

Sacramento to—	
Nicolaus	25
Marysville	20 45

Miles.

Oroville	26 71
Chico	26 97
Tehama	26 123
Red Bluff	13 136
Horsetown	29 165
Shasta	8 173
French gulch	15 188
Trinity Centre	27 215
New York house	14 229
Callahan's	13 242
Fort Jones	22 264
Yreka	18 282
Henly	20 302
Mountain house	17 319
Jacksonville	23 342
Grave creek	41 383
Canyonville	26 409
Roseberg	26 435
Oakland	17 452
Hawley's	30 482
Eugene City	25 507
Corvallis	39 546
Albany	10 556
Salem	24 580
Oregon City	37 617
Portland	13 630

STOCKTON TO VISALIA AND
OWEN'S VALLEY.

Stockton to—	
Heath & Emory's	28
Dickinson's ferry	21 49
Snelling	13 62
Hornitos	16 78
Chowchilla	25 103
Fresno	16 119
Millerton	15 134
King's river	25 159
Visalia	28 187
Tule river	25 212
Deer creek	8 220
White river	15 235
Linn's valley	9 244
Kern river	20 264
Walker's Pass	25 289
Little lake	30 319
Owen's lake	35 354
San Carlos	41 395

LOS ANGELES TO LA PAZ,
ARIZONA.

Los Angeles to—	
San Gabriel	12
El Monte	2 14
San Jose	12 26
Cocomungo	12 38
San Bernardino	25 63
Old S. B. mission	8 71
Frink's	7 78
Dr. Edgar's	8 86
Chapin's ranch	6 92
Antonio creek	4 96
Grant's creek	3 99
Indian run	5 104
White river	2 106
Agua Caliente	10 116
Sand Hole	11 127
Old rancharia	6 133
Toro's	9 142
Martinez	5 147
Palma Seco	12 159
Dos Palmos	7 166
Brown's Pass	10 176
Tabasacco	8 184
Chucolwalla	18 202
Slough	35 237
La Paz	16 253

La Paz to Fort Mohave	140
La Paz to Walker's diggings	146
La Paz to Pimo villages	200
La Paz to Tucson	280
La Paz to El Dorado canon	190

PORTLAND TO LEWISTON.

	Miles.
Portland to—	
Lower Cascades	5 50
Portage	5 55
Dalles	38 93
Celilo	13 106
Five-Mile rapids	5 111
John Day	11 122
Indian rapids	3 125
Squally Hook	3 128
Rock creek	7 135
Chapman's woodyard	6 141
Big Bend	6 147
Willow creek	9 156
Castle Rock	8 164
Long island (foot)	5 169
Long island (head)	7 176
Grand Ronde landing	10 186
Umatilla rapids	8 194
Windmill rock	7 201
Wallula	15 216
Snake river (mouth)	11 227
Rapids	6 233
Fish Bend	10 243
Jim Fort's island	10 253
Pine Tree rapids	7 260
Pelouse crossing	30 290
Fort Taylor	5 295
Penana creek	25 320
Almota creek	14 334
Alpowa creek	26 360
Smith's ferry	3 363
Lewiston	7 370

DALLES TO LEWISTON.

Dalles to—	
Deschutes	15
Mud Springs	12 27
John Day's river	12 39
Juniper spring	12 51
Willow creek	18 69
Well's spring	16 85
Butter creek	18 103
Umatilla river	9 112
Umatilla crossing	18 130
Wild Horse creek	18 148
Walla-Walla	20 168
Dry creek	7 175
Reed creek	15 190
Tucanoe	17 207
Patapha	11 218
Alpowa	14 232
Smith's ranch	8 240
Craig's ferry	9 249
Lewiston	1 250

Lewiston to Pierce City	90
Lewiston to Elk City	145
Lewiston to Florence	110
Lewiston to Idaho City	190

DALLES TO IDAHO CITY.

Via John Day mines.

Dalles to—	
Fifteen-Mile creek	12
Todd's bridge	10 22
Salt spring	8 30
Bake Oven hollow	14 44
Thorn hollow	6 50
Antelope valley	12 62
Potato hills	10 72
Pyramid rocks	4 76
Cherry creek	10 86
Bridge creek	7 93
Foot of mountain	11 104
Rock creek	12 116
John Day	17 133
South Fork	7 140
Canyon City	35 175
Dixie creek	11 186
Burnt river	35 221
Malheur river	18 240
Emigrant road	20 260

2.—Table of distances—Continued.

	Miles.		Miles.		Miles.
Old Fort Boise	16 276	St. Joseph river crossing.....	5 169	Rock creek.....	7 431
Boise City.....	25 301	Cœur d'Alene river.....	11 180	Deer Lodge creek.....	8 439
Idaho City.....	29 330	Cœur d'Alene crossing.....	11 191	Livingston's creek.....	9 448
WALLA-WALLA TO FORT BENSON.		Cœur d'Alene mission.....	8 199	Little Blackfoot river.....	8 456
Via Mullan's military road.		Three-Mile prairie.....	4 203	Mullan's Pass.....	13 469
Walla-Walla to—		Ten-Mile prairie.....	5 208	Great Prickly Pear.....	4 473
Dry Creek.....	9	Johnson's Cut-off.....	20 228	Silver creek.....	6 479
Touchet.....	11 20	Summit Steven's pass.....	8 236	Little Prickly Pear.....	16 495
Reed creek.....	15 35	St. Regis Borgia river.....	5 241	Medicine Rock.....	3 498
Tucanon.....	12 47	Prairie.....	9 250	L. P. P. Upper Camp.....	7 505
SNAKE RIVER.....	3 50	Prairie.....	13 263	LEWISTON TO KOOTENAI MINES.	
Palouse river.....	15 65	Bitter Root crossing.....	10 273	Lewiston to—	
First crossing.....	4 69	Prairie.....	10 283	Palouse crossing.....	40
Second crossing.....	4 73	Brown's prairie.....	13 296	Pine creek.....	10 50
Third crossing.....	2 75	Nemote creek.....	8 304	Lottow.....	7 57
Fourth crossing.....	2 77	West foot of mountain.....	6 310	Forks of trail.....	2 59
Mocalissia.....	7 84	Point of Rocks.....	9 319	Willow prairie.....	5 64
Oratayouse.....	13 97	Skahotay creek.....	9 328	Rock creek.....	10 74
Tcho-tcho-oo-scep.....	15 112	Kulkullo creek.....	4 332	Spokane River ferry.....	15 89
Ciel-ciel-pow-vet-sin.....	9 121	Hell Gate Ronde.....	6 338	Soltesa's.....	6 95
Camas Prairie creek.....	17 138	Observatory creek.....	13 351	Pen d'Oreille slough.....	23 118
Loochooltz.....	12 150	Big Blackfoot river.....	12 363	Pen d'Oreille crossing.....	24 142
Inchatzkan spring.....	8 158	Hell Gate river, 1st cross'g.....	5 368	Big bend of lake.....	15 157
Poun Lake bridge.....	6 164	Hell Gate river, 11th cross'g.....	25 393	Kootenai crossing.....	50 207
		Creek.....	7 400	Elk creek.....	123 330
		Flint creek.....	11 411		
		Gold creek.....	13 424		

APPENDIX 1.

Address on the history of California, from the discovery of the country to the year 1849, delivered before the Society of California Pioneers, at their celebration of the tenth anniversary of the admission of the State of California into the Union. By Edmund Randolph, esq. San Francisco, Sept. 10, 1860.

PIONEERS: From the importunities of the active present which surrounds us, we turn for a brief space to the past. To-day we give ourselves up to memory.

And, first, our thoughts are due to those who are not here assembled with us; whom we meet not on street nor highway, and welcome not again at the door of our dwellings; upon whom shines no more the sun which now gladdens the hills, the plains, the waters of California—to the pioneers who are dead. To them, as the laurel to the soldier who falls in the battle for that with his blood he has paid the price of victory, you will award the honor of this triumph, marked by the marvellous creations which have sprung from your common enterprises. To them you will consecrate a success which has surpassed the boldest of the imaginations which led you forth, both them and you, to a life of adventures. Your companions died that California might exist. Fear not that you will honor them overmuch. But how died they, and where do they repose—the dead of the pioneers of California?

Old men amongst you will recall the rugged trapper. His frame was strong; his soul courageous; his knowledge was of the Indian's trail and haunts of game; his wealth and defence, a rifle and a horse; his bed, the earth; his home, the mountains. He was slain by the treacherous savage. His scalp adorned the wigwam of a chief. The wolf and the vulture in the desert feasted on the body of this pioneer. A companion, wounded, unarmed, and famishing, wanders out through some rocky canon and lives to recount this tale—lives, more fortunate in his declining years, to measure, perhaps, his lands by the league, and to number his cattle by the thousand. And the sea, too, has claimed tribute; the remorseless waves, amid the terrors of shipwreck, too often in these latter days have closed over the manly form of the noble pioneer. The monsters of the deep have parted amongst them the flesh of our friends, and their

dissevered members are floating, suspended now in the vast abysses of the ocean, or roll upon distant strands, playthings tossed by the currents in their wanderings. And here, in San Francisco, exacting commerce has disturbed the last resting place of the pioneers. Ten years and a half ago, pinched by the severities of a most inclement winter, under the leaky tent which gave no shelter, they sickened and died (and then women and children were pioneers, too) by scores, and by hundreds they sickened and died. With friendly hands, which under such disastrous circumstances could minister no relief, you yet did bury them piously in a secluded spot upon the hill-side or in the valley, and, planting a rude cross or board to mark the grave, did hope, perhaps, in a more prosperous day, to replace it with a token in enduring stone. But the hill and the valley alike disappear hourly from our sight. The city marches with tremendous strides. Extending streets and lengthening rows encroach upon the simple burial-ground not wisely chosen. The dead give place to the living. And now the builder, with his mortar and his bricks, and the din of his trowel, erects a mansion or store-house for the new citizen upon the same spot where the pioneer was laid and his sorrowing friend dreamed of erecting a tombstone. Meanwhile, by virtue of a municipal order, hirelings have dug up and carted away all that remained of the pioneers, and have deposited them in some common receptacle, where now they are lying an undistinguishable heap of human bones.

Pursuing still this sad review, you well remember how, with the eager tide along and up the course of rivers, and over many a stony ascent, you were swept into the heart of the difficult regions of the gold mines; how you there encountered an equal stream pouring in from the east; and, in a summer, all the bars, and flats, and gulches, throughout the length and breadth of that vast tract of hills, were flooded with human life. Into that rich harvest Death put his sickle. Toil to those who had never toiled; toil, the hardest toil, often at once beneath a torrid, blazing sun, and in an icy stream; congestion, typhus, fevers in whatever form most fatal; and the rot of scurvy; drunkenness and violence, despair, suicide, and madness; the desolate cabin; houseless starvation amid snows: all these bring back again upon you in a frightful picture many a death-scene of those days. There fell the pioneers who perished from the van of those who first heaved back the bolts that barred the vaulted hills, and poured the millions of the treasures of California upon the world!

Wan and emaciated from the door of the tent or cabin where you saw him expire; bloody and mangled from the gambling saloon where you saw him murdered, or the roadside where you found him lying; the corpse you bore to the woods and buried him beneath the trees. But you cannot tell to-day which pine sings the requiem of the pioneer.

And some have fallen in battle beneath our country's flag.

And longings still unsatisfied led some to renew their adventurous career upon foreign soils. Combating for strangers whose quarrels they espoused, they fell amid the jungles of the tropics and fatted that rank soil there with right precious blood; or, upon the sands of an accursed waste, were bound and slaughtered by inhuman men who lured them with promises and repaid their coming with a most cruel assassination. In the filthy purlieus of a Mexican village swine fed upon all that murder left of honored gentlemen, until the very Indian, with a touch of pity, heaped up the sand upon the festering dead, and gave slight sepulture to our lost pioneers.

Though from the first some there were who found in California all they sought; and as they lived so died, surrounded by their children and their newly made friends, and were buried in churchyards with holy rites; and although those more lately stricken repose in well-fenced grounds, guarded by society they planted, and whose ripening power they have witnessed, and are gathered to a sacred stillness, where we too may hope that we shall be received

when full soon we sink to our eternal rest. Alas! far different the death and burial of full many a pioneer.

In deeds of loftiest daring of individual man, encounters fierce and rudest shocks, too often has parted the spirit of the pioneer, and left his mortal body to nature and the elements. Thus wilds are conquered, and to civilization new realms are won.

Upon his life and death let them reflect who would deny to the pioneer the full measure of the rights of freemen.

For us we behold the river or the rock, the mountain's peak, the plain—whatever spot from which his eyes took their last look of earth. There, as he lies, one gentle light shining athwart the gathering darkness, still holds his gaze. Guided by that light we will revisit the distant home of the dying pioneer. In imagination we will there revive the faded recollections of the intrepid boy who, in years long past, disappeared in the wilderness and the west, and for a lifetime has been accounted dead. We will renew, while we console, the grief of the aged father and mother. To the fresh sorrows of the faithful wife we pledge the sympathy and love of brothers. To the sons and daughters of our friends we stretch forth our hands in benedictions on their heads. To ancient friends we too are friends, until with our praises, and the eventful story of his life, we make to live again in his old peaceful home him who died so wildly. What though, to mournful questioning, we cannot point their graves? They have a monument—behold the State; and their inscription, it is written on our hearts.

Thus, as is meet, we honor our dead pioneers with severe yet pleasing recollections, grateful fancies, and tears not unmanly. With an effort we turn from ourselves to our country.

Of populous Christian countries Upper California is among the newest. Her whole history is embraced within the lifetime of men now living. Just ninety-one years have passed since man of European origin first planted his footsteps within the limits of what is now our State, with purpose of permanent inhabitation. Hence all the inhabitants of California have been but pioneers.

Cortez, about the year 1537, fitted out several small vessels at his port of Tehuantepec, sailed north and to the head of the Gulf of California. It is said that his vessels were provided with everything requisite for planting a colony in the newly discovered region, and transported four hundred Spaniards and three hundred negro slaves, which he had assembled for that purpose, and that he imagined by that coast and sea to discover another New Spain. But sands and rocks and sterile mountains, a parched and thorny waste, vanquished the conqueror of Mexico. He was glad to escape with his life, and never crossed the line which marks our southern boundary. Here we may note a very remarkable event which happened in the same year that Cortez was making his fruitless attempt. Four persons, Alvar Nunez Cabeza de Vaca, Castillo, Dorantes, and a negro named Estevancio, arrived at Culiacan, on the Gulf of California, from the peninsula of Florida. They were the sole survivors of three hundred Spaniards who landed with Pamfilo Narvaez on the coast of Florida for the conquest of that country, in the year 1527. They had wandered ten years among the savages, and had finally found their way across the continent. The same Nunez was afterwards appointed to conduct the discovery of the Rio de la Plata, and the first conquests of Paraguay, says our authority, the learned Jesuit Father Miguel Venegas.

The viceroy Mendoza, soon after the failure of Cortez, despatched another expedition, by sea and land, in the same direction, but accomplished still less; and again in 1542, the same viceroy sent out Juan Rodriguez Cabrillo, a courageous Portuguese, with two ships to survey the outward or western coast of California. In the latitude of 32 degrees he made a cape which was called, by himself, I suppose, Cape Engaño, (Deceit;) in 33 degrees, that of La Cruz, and

that of Galera, in $36\frac{1}{2}$ degrees, and opposite the last he met with two large islands, where they informed him that at some distance there was a nation who wore clothes. In 37 degrees and a half he had sight of some hills covered with trees, which he called San Martin, as he did also the cape running into the sea at the end of these eminences. Beyond this to 40 degrees the coast lies NE. and SW., and about the 40th degree he saw two mountains covered with snow, and between them a large cape, which, in honor of the viceroy, he called Mendocina. The headland, therefore, according to Venegas, was christened three hundred and eighteen years ago. Cabrillo continued his voyage to the north in midwinter, and reached the 44th degree of latitude on the 10th of March, 1543. From this point he was compelled by want of provisions and the bad condition of his ships to return, and on the 14th of April he entered the harbor of Natividad, from which he had sailed.

In 1578, at midsummer, Sir Francis Drake landed upon this coast, only a few miles northward from this Bay of San Francisco, at a bay which still bears his name. Sir Walter Raleigh had not yet sailed on his first voyage to Virginia. It will be interesting to know how things looked in this country at that time. After telling us how the natives mistook them for gods, and worshipped them, and offered sacrifices to them, much against their will, and how he took possession of the country in the name of Queen Elizabeth, the narrative goes on: "Our necessaire business being ended, our General with his companie travelled up into the countrey to their villiages, where we found heardees of deere by 1,000 in a companie, being most large and fat of bodie. We found the whole countrey to be a warren of a strange kinde of connies, their bodies in bigness as be the Barbarie connies, their heads as the heads of ours, the feet of a Want, (mole,) and the taile of a rat, being of great length; under her chinne on either side a bagge, into the which she gathered her meate, when she hath filled her bellie abroad. The people do eat their bodies and make great accompt of their skinnies, for their king's coat was made out of them. Our General called this countrey Nova Albion, and that for two causes: the one in respect of the white bankes and cliffes which lie toward the sea; and the other because it might have some affinitie with our countrey in name, which sometime was so called.

"There is no part of earth here to be taken up, wherein there is not a reasonable quantitie of gold or silver."

Every one will at once recognize the burrowing squirrel that still survives to plague the farmer, and who it will be seen is a very ancient inhabitant of the fields he molests; and no one but will dwell upon the words in which he speaks of the gold and silver abounding in this country. Were they but a happy guess in a gold-mad age, a miracle of sagacity, or a veritable prophecy? Before he sailed away, "our General set up a monument of our being there, as also of her Majestie's right and title to the same, viz: *a plate nailed upon a faire great poste, whereupon was engraven her Majestie's name, the day and yeare of our arrival there, with the free giving up of the province and people into her Majestie's hands, together with her highness' picture and arms, in a piece of fivepence of current English money under the plate, whereunder was also written the name of our General*"

These mementoes of his visit and the first recorded landing of the white man upon our shores, I think have never fallen into the possession of any antiquary. And it would also appear that Sir Francis Drake knew nothing of Cabrillo's voyage, for he says: "It seemeth that the Spaniards hitherto had never been in this part of the country, neither did discover the lande by many degrees to the southward of this place."

There were other expeditions to Lower California and the western coast, after the time of Cortez and Cabrillo, but they all proved fruitless until the Count de Monterey, viceroy of New Spain, by order of the King, sent out Sebastian Viscayno. He sailed from Acapulco on the 5th day of May, 1602, with two

large vessels and a tender, as captain-general of the voyage, with Toribio Gomez, a consummate seaman, who had served many years in cruising his Majesty's ships, as admiral; and three barefooted Carmelites, Father Andrew de la Assumpcion, Father Antonio de la Ascension, and Father Tomas de Aguino, also accompanied him. And that Viscayno might not lack for counsellors the viceroy appointed Captain Alonzo Estevan Peguero, a person of great valor and long experience, who had served in Flanders; and Captain Gaspar de Alorçon, a native of Bretagne, distinguished for his prudence and courage; and for sea affairs, he appointed pilots and masters of ships; likewise Captain Geronimo Martin, who went as cosmographer, in order to make draughts of the countries discovered, for the greater perspicuity of the account intended to be transmitted to his Majesty, of the discoveries and transactions on this voyage. The ships were further supplied with a suitable number of soldiers and seamen, and well provided with all necessaries for a year. This expedition was therefore, in every respect, a notable one for the age. Its object, the King of Spain himself informs us, was to find a port where the ships coming from the Philippine islands to Acapulco, a trade which had then been established some thirty years, might put in and provide themselves with water, wood, masts, and other things of absolute necessity. The galleons from Manila had all this time been running down this coast before the northwest wind, and were even accustomed, as some say, to make the land as far to the north as Cape Mendocino, which Cabrillo had named. Sebastian Viscayno with his fleet struggled up against the same northwest wind. On the 10th of November, 1602, he entered San Diego and found, on its northwest side, a forest of oaks and other trees, of considerable extent, of which I do not know that there are any traces now or even a tradition. In Lower California he landed frequently, and made an accurate survey of the coast, and to one bay gave the capricious appellation of the 'Bay of eleven thousand Virgins.' Above San Diego he kept further from the shore, noting the most conspicuous landmarks. But he came through the canal of Santa Barbara, which I suppose he so named, and, when at anchor under one of the islands, was visited by the king of that country, who came with a fleet of boats and earnestly pressed him to land, offering as proof of his hospitable intentions to furnish every one of his seamen with ten wives. Finally he anchored in the bay of Monterey on the 16th of December, 1602—this was more than four years before the English landed at Jamestown. The name of Monterey was given to this port in honor of the viceroy. On the 17th day of December, 1602, a church, tent or arbor, was erected under a large oak close to the seaside, and Fathers Andrew de la Assumpcion and Antonio de la Ascension said Mass, and so continued to do whilst the expedition remained there. Yet this was not the first Christian worship on these shores, for Drake had worshipped according to a Protestant ritual at the place where he landed twenty-five years before. The port of Monterey, as it appeared to those weary voyagers, and they were in a miserable plight from the affliction of scurvy, seems to have been very pleasing. It is described in the narrative of Father Andrew as an excellent harbor, and secure against all winds. "Near the shore are an infinite number of very large pines, straight and smooth, fit for masts and yards, likewise oaks of a prodigious size for building ships. Here likewise are rose trees, white thorns, firs, willows, and poplars; large clear lakes, fine pastures and arable lands," &c., &c. A traveller of this day, perhaps, might not color the picture so highly. Viscayno sent back one of his ships with the news, and with the sick, and with the other left Monterey on the 3d of January, 1603, and it was never visited more for a hundred and sixty-six years. On the 12th, having a fair wind, we are told that he passed the port of San Francisco, and that losing sight of his other vessel he returned to the port of San Francisco to wait for her. Father Andrew de la Assumpcion (as reported in Father Venegas) on this interesting point uses the following language: "Another reason which

induced the *Capitania* (flag-ship) to put into Puerto Francisco was to take a survey of it and see if anything was to be found of the *San Augustin*, which, in the year 1595, had, by order of his Majesty and the Viceroy, been sent from the Philippines to survey the coast of California, under the direction of Sebastian Rodriguez Cermenon, a pilot of known abilities, but was driven ashore in this harbor by the violence of the wind. And among others on board the *San Augustin* was the pilot Francisco Volanos, who was also chief pilot of this squadron. He was acquainted with the country, and affirmed that they had left ashore a great quantity of wax and several chests of silk; and the general was desirous of putting in here to see if there remained any vestiges of the ship and cargo. The *Capitania* came to anchor behind a point of land called *La Punta de los Reyes*."

Did Vizcayno enter the Bay of San Francisco? I think it plain that he did not. Yet exceedingly curious and interesting it is to reflect that he was but a little way outside the heads, and that the indentation of the coast which opens into the bay of San Francisco was known to him from the report of the pilots of the ships from the Philippines, and by the same name. In the narratives of the explorers the reader is often puzzled by finding that objects upon the shore are spoken of as already known, as for example in this voyage of Vizcayno the highlands a little south of Monterey are mentioned by the name of the *Sierra de Santa Lucia*, so named at some previous time: the explanation follows in the same sentence where they are said to be a usual land-mark for the China ships—*i. e.*, undoubtedly the galleons from the Philippines. Vizcayno could reach no further north than Cape Mendocino, in which neighborhood he found himself with only six men able to keep the deck; his other vessel penetrated as far as the forty-third degree; and then both returned to Acapulco. In those days there was a fabulous story very prevalent of a channel somewhere to the north of us which connected the Atlantic and Pacific oceans, and it seems that some foreigner had actually presented to the King of Spain a history of a voyage he had made directly across from Newfoundland to the Pacific ocean by the straits of Anian. The King is said to have had an eye to the discovery of this desirable canal at the same time that he was making provision for his trade from the Western Islands.

In 1697 the Jesuits, with patient art and devoted zeal, accomplished that which had defied the energy of Cortez and baffled the efforts of the Spanish monarchy for generations afterwards. They possessed themselves of Lower California, and occupied the greater portion of that peninsula, repulsive as it was, with their missions. In 1742, Anson, the English commodore, cruising off the western coast of Mexico, watched for the Spanish galleon which still plied an annual trip between Acapulco and Manila. This galleon was half man-of-war, half merchantman, was armed, manned, and officered by the King, but sailed on account of various houses of the Jesuits in the Philippines, who owned her tonnage in shares of a certain number of bales each, and enjoyed the monopoly of this trade by royal grant. She exchanged dollars from the Mexican mines for the productions of the east, and we read that at that day the manufacturers of Valencia and Cadiz, in Spain, clamored for protection against the silks and cotton cloths of India and China thus imported—by this sluggish craft which crept lazily through the tropics, relied upon rain to replenish the water jars on deck, and was commonly weakened by scurvy and required about six months for the return voyage—into Acapulco, thence transported on mules to Vera Cruz, and thence again after another tedious voyage to Europe. Anson watched in vain; the prudent galleon thought it best to remain under the shelter of the guns of Acapulco, in the presence of so dangerous a neighbor. He sailed away to the west, stopped and refreshed his crew at a romantic island in the middle of the Pacific ocean, went over to Macao and there refitted, and then captured the galleon at last, with a million and a half of dollars on board, as she was

going into Manilla, after a desperate combat with his ship, the *Centurion*. He then returned to China, extinguishing a great fire in Canton with his crew, sold the galleon in Macao, and got back safe to England with his treasure. His chaplain, Mr. Richard Walter, the author of the admirable narrative of this celebrated voyage, goes on, after relating the capture, to say: "I shall only add, that there were taken on board the galleon several draughts and journals. *

* * Among the rest there was found a chart of all the ocean, between the Philippines and the coast of Mexico, which was that made use of by the galleon in her own navigation. A copy of this draught, corrected in some places by our own observations, is here annexed, together with the route of the galleon traced thereon from her own journals, and likewise the route of the *Centurion* from Acapulco through the same ocean."

Here we may look for information. We have at least one log-book and chart of the old Manilla galleons. What if we could have access to the books of account of those venerable old traders in their monasteries at Manilla! Examining this chart we find that the coast of California, from a little further north than Punta de los Reyes, is laid down with remarkable accuracy. We have a great indentation of the coast immediately below Punta de los Reyes, a large landlocked bay with a narrow entrance, immediately off which lie seven little black spots called Los Farallones—in short, a bay at San Francisco, but without a name. The Farallones, I think, were named by Cabrillo, in 1542, two hundred years before Anson's time. Was this our port of San Francisco as we know it, or that which Vizcayno entered when he anchored on the 12th of January, 1603, under a point of land called La Punta de los Reyes? Lower down we have Point Año Nuevo and Point Pinos, and a bay between, but not the name of Monterey, then a great many islands, then Point Conception, then San Pedro, and then the Port of San Diego, and Lower California to Cape San Lucas. The outward track of the galleon lies between 12 and 15 degrees north, and on her return she goes up as high as about 35 degrees, and there being off Point Conception, but a long way out to sea, she turns to the south and runs down the coast to Cape San Lucas, where the Jesuit fathers kept signal fires burning on the mountains to guide her into port, and expected her return with the fruits and fresh provisions which the exhausted mariners so much needed. Such was the strange precursor of the steamship and clipper on the waters of the Pacific, and the first great carrier of the commerce between its opposite shores! You will observe how nature brings this commerce to our doors. The outward run of the galleon so near the equator was to take the eastern trade-winds, which wafted her without the necessity of changing a sail directly to the Philippines; China and the Indies—and her returning course was to avoid these trade-winds and to catch the breezes which to the north blow from the west. And this great circle of the winds touches our shores at the Bay of San Francisco. This chart was drawn for the use of the Spanish generals, (for such was the title and rank of the commanders of the Spanish galleons,) and "contained all the discoveries which the Manilla ships have at any time made in traversing this vast ocean."

It was these discoveries that gave names to so many points upon our coast undoubtedly, and prompted so many explorers, after Cabrillo, and both before and after Vizcayno. Knowing so much, the wonder is that these navigators did not know more. They named, and noted on their chart, yet did not know our Bay of San Francisco. Yearly for centuries they coasted by. A priest or soldier standing upon the deck of this old-timed ship, might gaze upon a glorious land that overhung the western sea; with hills on hills a swelling pile, glowing in sunsets that had gilded them through countless ages. But, save in the casual visits of the earliest navigators, we know not that foot of white man yet had pressed the soil of California. The world was busy in commerce and in war. But the breeze still ruffled the vacant waters, dimpled the idle grass,

and fanned the sultry sides of the solitary mountains of California. These slopes and plains pastured but the deer and elk. A despicable type of man, in petty groups, wandered through these valleys, of which the bear was more the lord than he. No other human tenant occupied the most delightful of the habitations of man, nor had from the creation down.

The Spaniards were at best but feeble navigators. Witness the galleons making a tedious progress in the latitude of calms. Anson says that the instructions to their commanders were, in his day, to keep within the latitude of 30 degrees, if possible, as if they feared to encounter the stiffer breezes further north, an instruction, however, not always followed, as their chart demonstrates. To vessels such as then were built or to be found in Mexican or South American ports the daily winds from the northwest, which in summer roughen the sea all along the coast to Cape San Lucas, were gales against which it was dangerous and almost hopeless to attempt to make head. This labor had not diminished from the days of Cabrillo and Vizcayno. These most beneficent northwest trade-winds cut off California from Spanish America by sea. By land the desert tracts of the Gila and Upper California, both unexplored, barred the approach from the south; and to the east the human imagination had not yet traversed the interval from the Atlantic ocean. In 1769 the history of mankind may be said to have begun upon this coast. In this wise it begun.

Charles the Fifth, on the 17th day of November, 1526, addressed these words to his Indies:

"The kings, our progenitors, from the discovery of the West Indies, its islands and continents, commanded our captains, officers, discoverers, colonizers, and all other persons, that, on arriving at those provinces, they should, by means of interpreters, cause to be made known to the Indians that they were sent to teach them good customs, to lead them from vicious habits and the eating of human flesh, to instruct them in our holy Catholic faith, to preach to them salvation, and to attract them to our dominions."

The same spirit breathes through every part of the laws of the Indies, as they were issued for successive centuries, which may be seen by reference to the code in which they are compiled.

The ministers who executed these pious purposes of the king were mainly the soldiers of the cross. Christian priests converted our savage ancestors in the forests of the north of Europe, and laid the foundations of the great republic of European states, of which the cement is modern civilization. Christian priests endeavored to repeat that grand achievement in America. A sublime contemplation! They interposed the cross and staid the descending sword and the still swifter destruction of private greed. Their powerful protector was the King of Spain, when both continents were almost entirely Spanish. Their dusky converts who acknowledged the dominion of Christ were saved as subjects of the king, were admitted to civil rights, and mingled their blood with that of the descendants of the Visigoths. In the lineaments and complexion of the Spanish American we still behold the native Indian whom the church preserved. Exalted charity! at least in motive; and although the teacher could not foresee that the same lesson would not effect the same result in pupils so diverse, it was not their fault that they did not raise the crouching Indian to the level of the conquering German.

In 1767 the Jesuits being banished from the Spanish dominions, Lower California was transferred to the charge of another celebrated order, the Franciscans. Into this field, when it had been wrested from the Society of Jesus, the Franciscans were led by one who was born in an island of the Mediterranean, the son of humble laborers. From his infancy Father Junipero Serra was reared for the church. He had already greatly distinguished himself in the conversion and civilization of heathen savages in other parts of Mexico; and

afterwards had preached revivals of the faith in Christian places, illustrating, as we are told, the strength of his convictions and the fervor of his zeal by demonstrations which would startle us now coming from the pulpit—such as burning his flesh with the blaze of a candle, beating himself with a chain, and bruising his breast with a stone which he carried in his hand. Further, this devout man was lame from an incurable sore on his leg, contracted soon after his landing in Mexico; but he usually travelled on foot none the less. You have before you the first great pioneer of California! His energies were not destined to be wasted in the care of missions which others had founded. He entered immediately upon the *spiritual conquest* of the regions of the north. Josef de Galvez, then visitor general, a very high officer, (representing the person of the king in the inspection of the working of every part of the government of the province to which he was sent,) and who afterwards held the still more exalted position of minister general for all the Indies, arrived at this time in Lower California, bringing a royal order to despatch an expedition by sea to re-discover and people the Port of Monterey, or at least that of San Diego. Father Junipero entered with enthusiasm into his plans, and after consulting with him and learning the condition of the missions and the latitude of the most northern, Galvez, the better to fulfil the wishes of his majesty, determined, besides the expedition by sea, to send another which should go in search of San Diego by land, at which point the two expeditions should meet and make an establishment. And he further resolved to found three missions, one at San Diego, one at Monterey, and another mid-way between these, at San Buena Ventura. A fleet, consisting of two small vessels, at this time came over to Lower California from San Blas; the San Carlos and the San Antonio, otherwise the Principe. Of these the San Carlos was the capitania or flag-ship. Galvez, a really great man, labored with great diligence and good nature to get them ready for sea; with his own hands assisting the workmen, such as there were to be found in that remote corner of the world, in careening the vessels, and the fathers in boxing up the ornaments, sacred vases, and other utensils of the church and vestry, and boasting in a letter that he was a better sacristan than Father Junipero, because he had put up the ornaments, &c., for his mission, as he called that of San Buena Ventura, before that servant of God had those for his of San Carlos, and had to go and help him. Also, that the new missions might be established in the same manner with those of Sierra Gorda, where Father Junipero had formerly labored, and with which he was much pleased. Galvez ordered to be boxed up and embarked all kinds of household and field utensils, with the necessary iron-work for cultivating the lands, and every species of seeds, as well those of old as of new Spain, without forgetting the very least, such as garden-herbs, flowers, and flax, the land being, he said, in his opinion, fertile for everything, as it was in the same latitude with Spain. For the same purpose, he determined that from the furthest north of the old missions the land expedition should carry two hundred head of cows, bulls, and oxen, to stock that new country with large cattle, in order to cultivate the whole of it, and that in proper time there should be no want of something to eat.

Father Junipero blessed the vessels and the flags, Galvez made an impressive harangue, the expedition embarked, and the San Carlos sailed from La Paz, in Lower California, on the 9th day of January, 1769. The whole enterprise was commended to the patronage of the Most Holy Patriarch St. Joseph. On the San Carlos sailed Don Vicente Villa, commander of the maritime expedition; Don Pedro Fages, a lieutenant commanding a company of twenty-five soldiers of the Catalonian volunteers; the engineer, Don Miguel Constanzo; likewise Dr. Pedro Pratt, a surgeon of the royal navy, and all the necessary crew and officers. With them for their consolation went the Father Friar Fernando Paron. Galvez, in a small vessel, accompanied the San Carlos as far as Cape San Lucas, and saw her put to sea with a fair wind on the 11th day of January,

1769. The San Antonio, the other vessel, went to Cape San Lucas, and Galvez set to work with the same energy and heartiness to get her ready. She sailed on the 15th day of February, 1769. The captain of the San Antonio was Don Juan Perez, a native of Majorca, and a distinguished pilot of the Philippine trade. With him sailed two priests, Fathers Juan Vizcayno and Francisco Gomez. The archives of this State contain a paper of these times which cannot but be read with interest. It is the copy of the receipt of the commander, Vincente Villa, containing a list of all the persons on board the San Carlos, and an inventory of eight months' provisions. It reads thus :

OFFICERS AND CREW, SOLDIERS, ETC., OF THE SAN CARLOS.

The two army officers, the father missionary, the captain, pilot, and surgeon	6 persons.
The company of soldiers, being the surgeon, corporal, and twenty-three men	25 persons.
The officers of the ship and crew, including two pages, (cabin boys doubtless)	25 persons.
The baker and two blacksmiths	3 persons.
The cook and two tortilla makers	3 persons.
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Total	62 persons.
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Dried meat, 187 arrobas, (25 pounds,) 6 libras; fish, 77 arrobas, 8 libras; crackers, (common,) 267 arrobas, 3 libras; crackers, (white,) 47 arrobas, 7 libras; Indian corn, 760 fanegas; rice, 37 arrobas, 20 libras; peas, 37 arrobas, 20 libras; lard, 20 arrobas; vinegar, 7 tinajas, (jars;) salt, 8 fanegas; panocha, (domestic sugar,) 43 arrobas, 8 libras; cheese, 78 arrobas; brandy, 5 tinajas; wine, 6 tinajas; figs, 6 tinajas; raisins, 3 tinajas; dates, 2 tinajas; sugar, 5 arrobas; chocolate, 77 arrobas; hams, 70 arrobas; oil, (table,) 6 tinajas; oil, (fish,) 5 tinajas; red pepper, 12 libras; black pepper, 7 libras; cinnamon, 7 libras; garlic, 5 libras; 25 smoked beef tongues; 6 live cattle; 70 tierces of flour, each of 25 arrobas, 20 libras; 15 sacks of bran; lentiles, 23 arrobas; beans, 19 arrobas, 20 libras; one thousand dollars in reals (coin) for any unexpected emergency. Besides 32 arrobas of panocha (domestic sugars,) 20 for the two missions of San Diego and Monterey, one half to each, and the remaining 12 arrobas for the gratification of the Indians, and to barter with them. 16 sacks of charcoal; 1 box of tallow candles of $4\frac{1}{2}$ arrobas; 1 pair of 16-pound scales; 2 pounds of lamp wick.

The original of this simple and homely document, but which enables us to realize so clearly these obscure transactions, yet so full of interest for us, was given unquestionably to Galvez, and this copy we may presume brought to California on this first voyage of the Santa Carlos to serve as her manifest. It is dated the 5th of January, 1769. Of the same date we have the instructions of Galvez to Villa and Fages, addressed to each of them separately—that is, the original is given to Villa under the signature of Galvez and a copy to Fages. They are long and minute. The first article declares that the first object of the expedition is to establish the “Catholic religion among a numerous heathen people, submerged in the obscure darkness of paganism, to extend the dominion of the King our lord, and to protect this peninsula from the ambitious views of foreign nations.” He also recites that this project had been entertained since 1606, when it was ordered to be executed by Philip III, referring to orders which were issued by that monarch in consequence of the report made by Vizcayno, but which were never carried into effect. He enjoins that no labor or fatigue be spared now for the accomplishment of such just and holy ends. San Diego, he says, will be found in latitude 33 degrees,

as set forth in the royal cedula of 1606, (one hundred and sixty-three years before,) and that it cannot fail to be recognized from the landmarks mentioned by Vizcayno. At the conclusion in his own handwriting we have the following:

"NOTE.—That to the fort or presidio that may be constructed, and to the pueblo (village) of the mission which may be established at Monterey, there shall be given the glorious name of San Carlos de Monterey.—JOSEPH DE GALVEZ," (with his rubric.)

When the *San Antonio* sailed she seems to have carried a letter from Galvez to Pedro Fages, who had gone in advance on the *San Carlos*, for we have it now in the archives. It is dated cape San Lucas, February 14, 1769. The body of the letter is in substance: That the *San Antonio* arrived at the bay (San Lucas) on the twenty-fifth of last month, (January;) that she was discharged and cleared of barnacles; that he examined the vessel with his own eyes, and found the keel thereof as sound as when it was placed in the vessel; that the necessary repairs had been made, and her cargo again placed on board, and that to-morrow, if the weather permit, she will sail, and that he trusts in Providence she will come safely into Monterey and find him (Fages) already in possession of the country.

So far it is in the handwriting of a clerk. He then adds a postscript with his own hand, addressed as well to Father Parron and the Engineer Constanzo as to Fages. I read it, for it is pleasant to have, as it were, a personal acquaintance with the eminent personage who directed the foundation of Upper California, and to find him a gentleman of such manifest abilities, generous temper, and enthusiasm:

"MY FRIENDS: It appears that the Lord, to my confusion, desires infinitely to reward the only virtue I possess, which is my constant faith, for everything here goes on prosperously, even to the mines abounding in metals. Many people are collecting, with abundance of provisions.

"I hope you will sing the *Te Deum* in Monterey, and in order that we may repeat it here, you will not withhold the notice of the same an instant longer than is necessary.

"This is also for the Reverend Father Parron.

"JOSEF DE GALVEZ," (Rubrica.)

Just as active was he in getting off the land expedition. The chief command was given to Don Gaspar de Portala, captain of dragoons, and then governor of Lower California; the second rank to Don Fernando Rivera y Moncada, captain of a company of foot soldiers who carried leathern bucklers. And in imitation of Jacob, Galvez, in view of the dangers of the route through savages and an unknown country, divided the force into two parts, to save one if the other was lost. Rivera was to lead the first and the governor to follow after. Rivera sets out towards the north as early as September, 1768, collecting mules and muleteers, horses, dried meat, grain, flour, biscuits, &c, among the missions; encamps on the verge of the unexplored regions, and sends word to the visitor general that he will be ready to start for San Diego in all of March. Father Juan Crespi there joins him, and on the 24th day of March, which was Good Friday, he begins the journey. This party consisted of the Captain Rivera, Father Crespi, a pilot who went to keep a diary, twenty-five foot soldiers with leathern bucklers, three muleteers, and a band of Christian Indians of Lower California, to serve as pioneers, assistants to the muleteers, and for anything else that might be necessary, and who carried bows and arrows. They spent fifty-two days in the journey, and on the 14th day of May arrived, without accident, at San Diego. Father Junipero Serra, president of the missions of Lower California, and of those that were to be founded, marched with Portala. The sea-

son of lent, the dispositions to be made for the regulation of the missions during his absence, and the preparations for the expedition in its spiritual part, detained him, so that it was May before he joined Portalà at the same encampment from which Rivera had set out. The reverend father president came up in very bad condition. He was travelling with an escort of two soldiers, and hardly able to get on or off his mule. His foot and leg were greatly inflamed, and the more that he always wore sandals, and never used boots, shoes, or stockings. His priests and the governor tried to dissuade him from the undertaking, but he said he would rather die on the road, yet he had faith that the Lord would carry him safely through. A letter was even sent to Galvez, but he was a kindred spirit, and agreed with Father Junipero, who, however, was far into the wilderness before the answer was received. On the second day out, his pain was so great that he could neither sit nor stand, nor sleep, and Portalà, being still unable to induce him to return, gave orders for a litter to be made. Hearing this, Father Junipero was greatly distressed on the score of the Indians, who would have to carry him. He prayed fervently, and then a happy thought occurred to him. He called one of the muleteers and addressed him, so runs the story, in these words: "Son, don't you know some remedy for the sore on my foot and leg?" But the muleteer answered, "Father, what remedy can I know? Am I a surgeon? I am a muleteer, and have only cured the sore backs of beasts." "Then consider me a beast," said the father, "and this sore which has produced this swelling of my legs, and the grievous pains I am suffering, and that neither let me stand nor sleep, to be a sore back, and give me the same treatment you would apply to a beast." The muleteer, smiling, as did all the rest who heard him, answered, "I will, father, to please you;" and taking a small piece of tallow, mashed it between two stones, mixing with it herbs, which he found growing close by, and having heated it over the fire, annointed the foot and leg, leaving a plaster of it on the sore. God wrought in such a manner—for so wrote Father Junipero himself from San Diego—that he slept all that night until daybreak, and awoke so much relieved from his pains that he got up and said matins and prime, and afterwards Mass, as if he had never suffered such an accident; and to the astonishment of the governor and the troop at seeing the father in such health and spirits for the journey, which was not delayed a moment on his account. Such a man was Father Junipero Serra; and so he journeyed when he went to conquer California. On the first of July, 1769, they reached San Diego, all well, in forty-six days after leaving the frontier. When they came in sight of the port the troops began firing for joy; those already there replied in the same manner. The vessels at anchor joined in the salute, and so they kept up the firing, until, all having arrived, they fell to embracing one another, and to mutual congratulations at finding all the expeditions united and already at their longed-for destination. Here, then, we have the officers and priests, soldiers and sailors, and laborers, mules, oxen and cows, seeds, tools, implements of husbandry, and vases, ornaments, and utensils for the church, gotten together to begin the work of settlement, conversion, and civilization on the soil of California. The first day of July, ninety-one years ago, is the first day of California. The year 1769 is our era. The obscure events that I have noticed must yet by us be classed among its greatest occurrences, although it saw the birth of Napoleon and Wellington.

The number of souls then at San Diego should have been about two hundred and fifty, but the San Carlos had had a very hard time at sea, not reaching San Diego (which place she found with difficulty) until twenty days after the arrival of the San Antonio, which sailed five weeks later. She had, of the crew, but one sailor and the cook left alive; all the rest had died of scurvy. The first thing to be done was to found a mission and to look for Monterey, which from Vizcayno's time had been lost to the world. For founding a mission this was the proceeding:

Formal possession of the designated spot was taken in the name of Spain. A tent or arbor, or whatever construction was most practicable, was erected to serve as a temporary church, and adorned as well as circumstances would permit; a father in his robes blessed the place and the chapel, sprinkling them with water, which also he had first blessed for the occasion, and immediately the holy cross, having first been adored by all, was mounted on a staff and planted in front of the chapel. A saint was named as a patron of the mission, and a father appointed as its minister. Mass was said and a fervent discourse concerning the coming of the Holy Ghost delivered. That service, celebrated with such candles or other lights as they might have, being over, the *Veni Creator Spiritus*—an invocation to the Holy Ghost—was sung, whilst the continual firing of the soldiers during the ceremony supplied the place of an organ, and the smoke of the gunpowder that of incense, if it was wanting.

The mission being founded, the next thing was to attract the Indians. This was done in the simplest manner, by presents of food and cloth to the older ones, and bits of sugar to the young ones. When they had learned enough of their language to communicate with them, they taught them the mysteries of the faith, and when they were able to say a few prayers and make in some sort a confession of faith, they were baptised and received into the fold of the Church. At the same time they were drawn from a wandering life, collected in villages around the mission Church, and instructed in the habits and arts of civilized life. To keep them in the practice of their lessons, spiritual and secular, the father in charge of the mission had over them the control of a master, and for them the affection of a parent, and was supported in his authority by the soldiers at the presidios, or an escort stationed at the mission itself.

This was the mode of accomplishing what Galvez in his instructions declared to be the first object of the enterprise. And in this manner Father Junipero began the work at San Diego on the 16th day of July. An untoward incident of a very unusual nature in California attended this first essay. The Indians, not being permitted to steal all the cloth they coveted, surprised the mission when only four soldiers, the carpenter, and blacksmith were present, and Father Junipero would have been murdered then at the outset, but for the muskets, leathern jackets, and bucklers, and mainly the valor of the blacksmith. This man had just come from the communion, to which circumstance the fathers attributed his heroism, and although he wore no defensive armor of skins, he rushed out shouting *vivas for the faith of Jesus Christ and death to the dogs, its enemies*, at the same time firing away at the savages.

On the 14th day of July the Governor Portala and a servant; Father Juan Crespi and Francisco Gomez; Captain Fernando Rivera y Moncada, the second in command, with a sergeant and twenty-six soldiers of the leathern jackets; Lieutenant Pedro Fages and seven of his soldiers—the rest had died on the San Carlos or were left sick at San Diego; Don Miguel Constanzo, the engineer; seven muleteers, and fifteen Christian Indians, sixty-five persons in all, with a pack train carrying a large supply of provisions, set out to rediscover Monterey. The mortality on board the San Carlos prevented any attempt at that time by sea; that vessel having to be laid up at San Diego, whilst all the efficient men were transferred to the San Antonio, which was sent back with the news and for reinforcements, and lost nine men before reaching San Blas, although she made the voyage in twenty days. Such was navigation on this coast at that time. Portala returned to San Diego on the 24th of June, six months and ten days after his departure. He had been at the port of Monterey, stopped there and set up a cross without recognizing the place. Father Crespi, who kept the diary, said he supposed the bay had been filled up, as they found a great many large sand-hills. This disappointment caused Portala to keep on further towards the north, and at forty leagues distant in that direction they discovered the port of San Francisco, which they recognized at once by the description they had o

it. The fathers considered this circumstance as providential. They remembered that when Galvez was instructing Father Junipero by what names to call the three missions he was to found, the father had asked him : " But, sir, is there to be no mission for our father, St. Francis ? " and that the visitor general had replied : " If St. Francis wants a mission, let him show us his port, and we will put one there. " And in view of the discovery, they thought that it was now clear that St. Francis did want a mission, and had concealed Monterey from them purposely that they might go and find his port ; and Galvez to some extent may have been of the same opinion, as they say, for he ordered a mission to be founded there, and a presidio also, as soon as he received the news. However this may be, a question of more historical interest, or curiosity, at least, is whether, notwithstanding that Portala knew the port from description as soon as he saw it, any other white man had ever seen it before. His latest guide was the voyage of Vizcayno, who had entered the port of San Francisco on the 12th of January 1603, and anchored under a point of land called Punta de Los Reyes, namely, in the bight outside the heads and north of Point Bonita.

In the port of San Francisco, as known to Vizcayno, the Manilla galleon San Augustine had been wrecked a few years before. Did a galleon ever enter our bay ? Vizcayno was searching for a port to shelter the Manilla trade ; if he had seen our harbor would he have ever thought of recommending Monterey ? He was doubtless following the pilot who gave the information of the loss of the San Augustine ; if that pilot had seen this port would not the specific object of Vizcayno have been to find it again, and not generally to explore the coast to look for a good harbor ? Had anything been known of it, would it not have been mentioned by Galvez in his first instructions to Villa, in which he is so earnest on the subject of Monterey ? Would he have waited for this news to have given the urgent orders that he did, that this important place should be taken possession of immediately, for fear that it might fall into the hands of foreigners ? It seems to me certain that Portala was the discoverer. And I regard it as one of the most remarkable facts in history, that others had passed it, anchored near it and actually given its name to adjacent roadsteads, and so described its position that it was immediately known ; and yet that the cloud had never been lifted which concealed the entrance of the bay of San Francisco, and that it was at last discovered by land.

Although Portala reported that he could not find the port of Monterey, it was suspected at the time that he had been there. Father Junipero writes that such was his opinion and that of Don Vicente Villa, of the San Carlos. In the same letter he mentions another matter, and one which disturbed him greatly. The Governor Portala, finding his provisions very short, determined if a vessel did not arrive with relief, to abandon the mission on the 20th of March.

But California was saved at the last moment. The San Antonio came in on the 19th and brought such a quantity of provisions that Portala set out again by land, and Father Junipero himself embarked on the San Antonio, which had proved herself a good sailer and well commanded, and anchored in the bay of Monterey, namely, on the 31st day of May, 1770, and found that the expedition by land had arrived eight days before ; and we thus see that the journey from San Diego at that time was made quicker by land than by water. Father Junipero writes that he found the lovely port of Monterey the same and unchanged in substance and in circumstance as the expedition of Sebastian Vizcayno left it in 1603 ; and that all the officers of sea and land, and all their people assembled in the same glen and under the same oak where the Fathers of Vizcayno's expedition had worshipped, and there arranged their altar, hung up and rung their bells, sung the *Veni Creator*, blessed the holy water, set up and blessed the cross and the royal standards, concluding with a *Te Deum*. And there the name of Christ was again spoken for the first time after an interval of more than one hundred and sixty-seven years of silence. After

the religious ceremonies were over, the officers went through the act of taking possession of the country "in the name of our lord the King."

When this news was received at the city of Mexico it created a profound impression. At the request of the Viceroy the bells of the cathedral were rung, and those of all the other churches answered; people ran about the streets to tell one another the story, and all the distinguished persons at the capital waited upon the Viceroy, who, in company with Galvez, received their congratulations at the palace; and that not only the inhabitants of the city of Mexico, but also those of all New Spain might participate in the general joy, the Viceroy caused a narrative of the great achievement to be printed; and which, indeed, was circulated throughout old as well as New Spain. It commences by referring to the costly and repeated expeditions which were made by the Crown of Spain during the two preceding centuries to explore the western coast of California and to occupy the important port of Monterey, which now, it says, has been most happily accomplished; and it is jubilant throughout. Nothing of this sort occurred when they heard a short time before of the discovery of the Bay of San Francisco; and in this authoritative relation it is not even mentioned.

Governor Portala, with the engineer Constanzo, very soon returned to Mexico in the good ship *San Antonio*, and carried themselves the tidings of their success. We may imagine what a description they gave when we remember that they left San Diego about the middle of April, and that at that season the country through which they passed to Monterey was mottled all over with the brightest and most varied colors. They were the first to behold a California spring in all its boundless profusion of flowers. When they were gone there remained only Father Junipero Serra and five priests, and the Lieutenant Pedro Fages and thirty soldiers in all California; for the captain, Rivera y Moncada, with nineteen soldiers, the muleteers and vaqueros, was at this time absent too, in Lower California, whither he had gone to bring up a band of two hundred cattle and provisions. It is impossible to imagine anything more lonely and secluded than their situation here, at the time the bells were ringing so joyfully in Mexico on their account. Very soon, however, they began to get on good terms with the Indians, for Father Junipero was not a man to lose any time in beginning his work. And when they came to understand one another, the Indians there, under the pines, told them awful tales about the cross which Portala had set up the year before when he stopped at Monterey without knowing the place; how when they first saw the whites they noticed that each one carried a shining cross upon his breast; and how they were so terrified when they found the whites had gone and had left that large one standing on the shore that at first they dared not approach it; that at night it shone with dazzling splendor, and would rise and grow until it seemed to reach the skies; and how, seeing nothing of this sort about it in the day time, and that it was only of its proper size, they had at last taken courage and gone up to it, and to make friends with it, had stuck arrows and feathers around it in the earth, and had hung strings of sardines on its arms, as the Spaniards had found on their return. For the truth of this story the prudent father would not vouch, but they were still willing to regard it as an omen, and to attribute to it their easy success in converting the natives of those parts, as Father Junipero wrote to the Viceroy for his edification and encouragement. Father Junipero soon removed his mission from Monterey to a more suitable place close by, on the river Carmelo. This was his own mission, where he always resided when not engaged in founding or visiting other missions, or in some other duty appertaining to his office of president of the missions of Upper California. This high office he held for the first fifteen years of the history of California, and until his death, which occurred at his mission of Carmel on the 28th of August, 1784. His activity and zeal in the conversion and civilization of savages are really wonderful, and scarcely intelligible to us. The sight of

a band of Indians filled him with as much delight as at this day a man feels at the prospect of making a fortune. He regarded them as so many souls that he was to save; and the baptism of an Indian baby filled him with transport. With what sort of a spirit he worked for these creatures you see pleasantly exhibited in the foundation of the mission of San Antonio de Padua, some twenty or thirty leagues below Monterey. With an escort, a couple of priests, and a pack train carrying all the necessary articles for a new church, he goes off into the mountains, examines all the hollows, and selects a beautiful little plain, through which flowed a small river. Here he orders the mules to be unpacked, and the bells to be hung upon a tree, and as soon as that is done he seizes the rope and begins to ring, crying out at the same time at the top of his voice, "Hear! hear! oh ye gentiles! Come to the holy church! Come to the faith of Jesus Christ!" Father Péyras, who was with him, remonstrates, "What do you stop for? Is not this the place for the church, and are there no gentiles in the neighborhood?" "Let me alone," says Father Junipero; "Let me unburthen my heart, which could wish this bell should be heard by all the world, or at least by all the gentiles in these mountains"—and so he rang away there in the wilderness.

The missions of San Francisco and Santa Clara were not founded for several years after the occupation of Monterey. The wants of the new missions of his jurisdiction induced the Reverend Father President Junipero to take a journey to Mexico to see the Viceroy in person, and although he succeeded to his satisfaction in other things, it was only after much entreaty that he obtained a promise that these two missions should be established after communication was opened by land. This was done by Captain Juan Bautista Anza, in 1773, whilst Father Junipero was absent on his visit to Mexico. [NOTE.—A granddaughter of Captain Juan Bautista Anza is now living in this city. She is the wife of Don Manuel Ainsa, and the mother of a large family of great-grandchildren of the first pioneer who came to Upper California, direct from Mexico by land.] He made his report to the Viceroy in 1774, and came back again with a considerable number of soldiers and families in 1776. In the mean time, in anticipation of his arrival, the San Carlos was sent up to examine the port of San Francisco, and ascertain whether it could be really entered by a channel or mouth which had been seen from the land. This great problem was satisfactorily solved by the San Carlos, a ship of perhaps some two hundred tons burden at the very utmost, in the month of June, 1775. When she entered they reported that they found a land-locked sea, with two arms, one making into the interior about fifteen leagues to the southeast, another three, four, or may be five leagues to the north, where there was a large bay, about ten leagues across and of a round figure, into which emptied the great river of our father, St. Francis, which was fed by five other rivers, all of them copious streams, flowing through a plain so wide that it was bounded only by the horizon, and meeting to form the said great river; and all this immensity of water discharging itself through the said channel or mouth into the Pacific ocean, which is there called the Gulf of the Farallones. This very striking description was accurate enough for the purposes of that day; and as soon as Anza and his people had arrived, and Anza in person had gone up and selected the sites, a party was sent by land and another by sea to establish the presidio and mission of San Francisco. The date of the foundation of the presidio is the 17th of September, and of the mission the 9th of October, 1776. The historian mentions in connection with these proceedings some things which may claim a moment's attention. In the Valley of San José, the party coming up by land saw some animals which they took for cattle, though they could not imagine where they came from; and, supposing they were wild and would scatter the tame ones they were driving, the soldiers made after them and succeeded in killing three, which were so large that a mule could with difficulty carry one,

being of the size of an ox, and with horns like those of a deer, but so long that their tips were eight feet apart. This was their first view of the elk. The soldiers made the observation that they could not run against the wind by reason of these monstrous antlers. And after the presidio, and before the mission was established, an exploration of the interior was organized, as usual, by sea and land. Point San Pablo was given as the rendezvous; but the captain of the presidio, who undertook in person to lead the land party, failed to appear there, having, with the design to shorten the distance, entered a cañada somewhere near the head of the bay, which took him over to the San Joaquin river; so he discovered that stream.

Then there are some traits of the first inhabitants of this place, the primitive San Franciscans. They lived upon muscles and acorns, blackberries, strawberries, and fish, and delighted above all things in the blubber of whales, when one was stranded on the coast. They wore no clothes at all, at least the men, and the women very little; but they were not ashamed. They found it cold all the year round, as did the fathers who first took charge of the mission, and to protect themselves, were in the habit of plastering their bodies with mud. They said it kept them warm. Their marriages were very informal, the ceremony consisting in the consent alone of the parties; and their law of divorce was equally simple, for they separated as soon as they quarrelled, and joined themselves to another, the children usually following the mother. They had no other expression to signify that the marriage was dissolved than to say, "I have thrown her away," or "I have thrown him away." And in some of their customs they seemed to have been Mormons. In their marriages affinity was not regarded as an objection, but rather an inducement. They preferred to marry their sisters-in-law, and even their mothers-in-law; and the rule was, if a man married a woman, he also married all her sisters, having many wives who lived together, without jealousy, in the same house, and treated each other's children with the same love as their own. Father Junipero's death closes the first period of our history. It is a period marked by exploits. They are those of humble and devoted, yet heroic missionaries. The story is diversified with only such simple incidents as that, in the summer of 1772, the commander, Pedro Fages, had to go out and kill bears for provisions to subsist on, which formidable game he found in abundance somewhere near San Luis Obispo, in a cañada that still justly bears the name of Cañada de los Osos: and that in 1780 the frost killed the growing grain at Easter. And only one instance of bloodshed attended the happy course of the spiritual conquest. The vicious Indians of San Diego, on a second attempt, murdered one of the fathers and two or three other persons, and burned the mission, which some little time afterwards was re-established. We are told that they were prompted to this deed by the enemy of souls, who was very much incensed at finding his party falling into a minority by reason of the constant conversions of the heathen in that neighborhood. All the seeds that Galvez was so provident in sending up took root and prospered beyond the most sanguine expectations which he could have entertained when he predicted that the soil would prove as fertile as that of old Spain; and the cattle increased and multiplied with an increase without a parallel, so that in short time his purpose, that there should be no lack of something to eat in this country, was fully accomplished.

Our historian is the friar, Father Francisco Palou, one of the followers of Father Junipero, whose life, like a devout disciple, he wrote here at the mission of San Francisco. He was the first priest who had charge of this mission, and his book was written here in 1785. It was printed in the city of Mexico in 1787. It is the first, undoubtedly, but not the worst book written in California. Copies of the original edition may be found in some private libraries of this city, bound in sheepskin, clasped with loops and buttons of the same, and with a long list of *errata* at the end. This volume is of itself an object of interest.

To the work there is a preface which bespeaks the indulgence of the reader, because it was written among "barbarous gentiles, in the port of San Francisco, in his new mission, the most northern of New California, without books or men of learning to consult." There are also the reports of several censors, and both a civil and ecclesiastical license to print it, and likewise a protest, of which the writer is entitled to the benefit at this day. He declares, in obedience to the Church, the Inquisition, and the Pope, that he intends and desires that no more faith should be given to his performance than to a mere human history, and that the epithets he gives Father Junipero, and the title of martyrs which he bestowed on some of the other missionaries, are to be understood as mere human honors, and such as are permitted by a prudent discretion and a devout faith. The narrative is clear and circumstantial, well supported by public and private writings, and obviously true. The miraculous is always introduced as hearsay, and, whilst it does not impeach the veracity of the writer, serves still further to illustrate the times by showing us the simple credulity of the class to which he belonged—the founders and first settlers of California. With the book there is a map. It exhibits the coast of Upper California from San Diego to San Francisco. The only objects visible on it are nine missions and a dotted line, to show the road that the fathers travelled from one to the other, viz: San Diego, San Juan Capistrano, San Gabriel, San Buenaventura, San Luis, (Obispo,) San Antonio, San Carlos de Monterey, Santa Clara, San Francisco, and three presidios, Monterey, Santa Barbara, and San Diego, all lying near the coast, and back all a blank. Looking upon this old map, we realize that California was designed for the Indians. They were to be its people after they were converted and instructed as others had been in Mexico. The missions were to be the towns. The presidios were to protect the missions within, and defend the country from enemies without. Only enough settlers were to be introduced to relieve the government from some part of the burden of supplying the presidios with recruits and provisions from Mexico. For this purpose, pueblos San José de Guadalupe and Los Angeles, one in the north and the other in the south, were established, both in the time of Father Junipero Serra. A small tract of land was given to these villages for their use collectively, and smaller parcels to each inhabitant as his private property. Neither of these pueblos appear on this old map, of such little consequence were they regarded. Father Palou, in relating the rejoicings at Mexico in consequence of the discovery of Monterey, says: "The said extent of three hundred leagues in length"—an accurate measurement of the new dominions of the king in Upper California—"is of fertile lands, peopled with an immensity of gentiles, from whose docile and peaceable dispositions it was hoped they would be immediately converted to our holy faith, and gathered in Catholic pueblos, (villages,) that thus living in subjection to the royal crown they might secure the coasts of this Southern or Pacific ocean." The first grant of land made in California was a tract of one hundred and forty varas square, at the mission of San Carlos, November 27, 1775, to one Manuel Butron, a soldier, in consideration that he had married Margarita, a daughter of that mission. Father Junipero recommends this family, to wit, the soldier and the native Indian woman, to the government, and all the other ministers of the king, "as being the first in all these establishments which have chosen to become permanent settlers of the same." The Indian appears in everything.

In tranquillity this California of the Indians remained for more than fifty years. The fathers built new missions, and continually replenished their stock of converts, which at one time amounted to at least twenty thousand. They planted vineyards, orchards, and the olive. They taught the Indians, to some extent, agriculture and the mechanic arts. They made flour, and wine, and cloth, and soap, and leather, adobes and tiles, and with their villages of disciples about them, lived at ease as well as in peace. There was but one obstacle in

their way. A great law of nature rose up to oppose them. The Indian of California was not equal to those of Mexico. He was but a brute. The time never came when he could be enfranchised and trusted to himself, and converted into a Spanish subject as so many races had been further south. The fathers must continue to hold their converts in subjection, or they would return to the heathen state, or even worse would befall them. If the world could have afforded to devote a paradise to such a purpose, and for the Indian, certainly it would have been well if the missions could have lasted forever. I will endeavor to present some of the features and some of the events of this Indian period, as briefly as possible. And here, for whatever of interest I may be able to awaken in the subject, I shall be indebted to Mr. R. C. Hopkins, the accomplished and learned gentleman who has charge of the Spanish archives in the surveyor general's office.

An American audience will of course desire to know something of the form of the political government. Constitution or charter there was none. The government was purely military, outside of the missions. All functions, civil and military, judicial and economical, were united in the person of the comandante of a presidio, in due subjection to his superior, and so on up to the king, an autocrat, whose person was represented and whose will was executed in every part of his dominions. In the archives is to be found a reglamento, which, as the name imports, is a set of regulations for the peninsula of the Californias, Lower and Upper. Its caption expresses that it is for the government of the presidios, the promotion of the erection of new missions, and of the population and extension of the establishments of Monterey. It was drafted at Monterey by the governor, in 1779, sent to Madrid, and approved by the king in 1781. When examined, it is found to adopt the royal reglamento for the government of all the presidios, with such small variations as the circumstances of California required. There are minute provisions for paying, clothing, and feeding the officers and troops, and for supporting the families of the troops, and other persons dependent on the presidios. The number of pack mules to be kept at the presidios, and how the horses are to be pastured, and that four are always to be kept in the presidio ready saddled by day, and eight by night, is prescribed. Another pueblo was to be founded, as was done, namely, Los Angeles. The pueblo of San José had already been founded, two years before. The intent of these pueblos is declared to be to fulfil the pious designs of the King for converting the gentiles, and to secure his dominions. At that date, says the reglamento, the country was filled, from San Diego to Monterey, with an immense number of gentiles, and only one thousand seven hundred and forty-nine Christians, of both sexes, in the eight missions, strung along through all that distance. The manner in which pueblos are to be founded is given; each settler to have his building lot and sowing field of two hundred varas square, that being supposed to be enough to sow two bushels of grain; and the whole together to have commons for wood, water, and pasturage; also a certain number of horses, mules, oxen, cows, sheep, chickens, ploughs, hoes, axes, &c., are to be furnished to each; and the amount of pay—for a settler had his salary for a little while as well as his outfit—his exemptions, and his obligations, are all minutely detailed. Of the first we observe, that for the first five years he is to be free from the payment of tithes; of the latter, that all the excess of his productions beyond his support he must sell at a fixed price to the presidios, and that he must keep a horse and saddle, carbine and lance, and hold himself in readiness for the service of the king. Also, we note that the building lot is a homestead, and cannot be alienated or mortgaged, and descends to the son or (in default of a son, I suppose) to the daughter, provided she is married to a settler who is without a lot of his own; and that after the first five years are past, each settler and his descendants must, in recognition of the absolute property of the King, pay a rent of one-half

fanega of corn for his sowing lot. The only trace of a political right that we find in the reglamento is the allowance to the pueblos of alcaldes, and other municipal officers, to be appointed by the governor for the first two years, and afterwards to be elected by the inhabitants. These officers were to see to the good government and police of the pueblos and the administration of justice, to direct the public works, apportion to each man his share of the water for irrigation, and generally to enforce the provisions of the reglamento. This, perhaps, was as much as they ought to have had, for we see in the proceedings on the foundation of San José, that neither the alcalde nor any one of the eight other settlers could sign his name. As a check upon the abuse of their privileges the elections were subject to the approval of the governor, who had also the power to continue to appoint the officers for three years longer, if he found it necessary.

At first California formed a part of the kingdom of New Spain, and was governed directly by the Viceroy of Mexico. In 1776 it was attached to the commandancia general of the internal provinces, which included also Soñora, New Mexico, Chihuahua, Coahuila, and Texas. Afterwards it was a part of the commandancia general of the internal provinces of the west, when Coahuila and Texas, New Leon and the Colony of New Santander had been erected into another jurisdiction, under the title of the internal provinces of the east. The commandante general seems to have had no fixed residence, but to have gone from place to place, wherever his presence might be wanted, and so his orders are sometimes dated from Arispe and sometimes from Chihuahua, both of which now obscure places may be said in their time to have been the capital of California. The Apache and Comanche Indian has watered his horse in their plazas since then. This arrangement did not last many years, and California reverted to the Viceroy again. Laws came from the King, in his council of the Indies, at Madrid, as orders are issued by the commander-in-chief of an army; to the second in command, to wit, the Viceroy at Mexico, from him to his next in rank, we will say the commandante general at Arispe or Chihuahua, from him to the governor of California at Monterey, and from him to the captain or lieutenant in command of a presidio. They took effect only as they were published, spreading as the courier advanced, and from place to place in succession, like a wave, from centre to circumference. They came slowly, but in time every order of a general nature would find its way into the archives of every province, presidio, or pueblo in North and South America, and of every island of the ocean which owned the dominion of the King of Spain. The archives of this State contain a great many, and their counterparts are to be looked for in every public office, from Havana to Manilla, and from Chihuahua to Valparaiso. When wars, or the accidents of navigation, or the urgency of the case, interrupted or rendered impossible communication with Madrid, each viceregent of the King in his department exercised the royal authority. Therefore, in the nature of things, the powers of every governor in his province were practically despotic. And not only the laws, but every other expression of the wishes of the King were transmitted in the same way, travelled through the same circuitous channels, and were received, and published, and executed with the same dignity and formality. Here is an example from the archives :

The King heard that the neighborhood of the presidio of San Francisco abounded with deer of a very superior quality, and desiring to have some for his park, issued an order to the viceroy of Mexico, who in his turn ordered the commandante general of the internal provinces of the west, who despatched an order to the governor of the province of California, who ordered the captain of the presidio of San Francisco, who finally ordered a soldier to go out and catch the deer, two years after the order was given by the King at Madrid. Allowing a reasonable time for the hunt, and for sending the animals to Spain, it will be seen that the King had to wait some time for the gratification of his royal wishes.

Another instance, and the more striking, as the subject-matter belongs to the latitude of the equator, and as it serves to illustrate that the arbitrary government of his Catholic Majesty was paternal and thoughtful as well, I give a translation of the original, complete :

Jacobo Ugarte y Loyola, commandante general of the internal provinces, writes to Pedro Fages, governor of California, as follows :

“ARISPE, *April 22, 1787.*

“On the 20th of November last past, his excellency the marquis of Sonora, (Viceroy of Mexico,) was pleased to communicate to me the following royal order :

“‘The archbishop, Viceroy of Santa Fé, (in South America,) on the 2d of July last, gave me an account of a remedy happily discovered by his confessor, against the ravages of the jigger (*nigua*) in the hot countries of America, which consists in anointing the parts affected by the jiggers with cold olive oil, which causes them to die, and the sacs containing them can be easily extracted—which the King desires should be published as a bando (proclamation) in the district under your government, in order that it may reach the notice of all ; and you shall take care that all those who are afflicted with said insect shall use said remedy, which is as effectual as it is simple.’

“And I insert the same to you in order that you may cause it to be published. May God preserve your life many years.

“JACOBO UGARTE Y LOYOLA.”

And so this valuable specific was made known by a public crier and with a roll of drums, all the world over, even here in California, where the troublesome insect is fortunately unknown.

The couriers, who were the overland mail of that day, on leaving, for instance, Monterey, received a certificate from the commandante of the presidio that he started at a certain hour ; on his arrival at the next stopping place he presented his certificate to the officer in command of the place, who noted the hour of his arrival and departure, and so on at all the stopping places between Monterey and La Paz, in Lower California ; so that if the mail carrier loitered on the way his way-bill would show it. Such way-bills from Monterey to La Paz, with all these memoranda on them, may be found in the archives. It was the unfortunate mail rider, and not the government, that people were in the habit of blaming in those days. These way-bills show that he made the distance from San Francisco to San Diego in five days. Quiet old days ! But little of a public sort was doing then in California. There was a dispute that amounted to something like a law suit between the mission of Santa Clara and the pueblo of San José. It commenced from the very day of the establishment of the latter. Father Junipero objected to the pueblo being so near the mission, the boundary as at first established running about half way between the two places. The governor was obstinate and Father Junipero desired that his protest might be entered in the proceedings of the foundation, which the governor refused. The controversy by no means died out ; the head of the college of San Fernando at Mexico, to which all the Franciscans of California belonged, brought it before the Viceroy, praying him not to allow the Indians and missionaries to be molested by the pueblo. The governor of California was therefore ordered to investigate the matter, and seems to have settled it by making the river Guadalupe the boundary from that time forward. Again, one Mariano Castro obtained from the Viceroy permission to settle himself upon a place called La Brea, in the neighborhood of the mission of San Juan Bautista ; under this license he applied to the governor to give him the possession of the land, but the priests at San Juan objected strenuously, alleging that the place of La Brea was needed by the mission for its cattle. This was represented by the governor to the viceroy, who, in the end, told Castro to select some other place, and the

mission kept La Brea. We see with what jealousy, and how effectively, the fathers vindicated the title of themselves and their Indian pupils to their California.

For a complete view of the internal constitution of California at that day, two facts, which are exceptional to this ecclesiastical domination, require to be noted.

In 1791, Pedro Nava, commandante of the internal provinces of the west, in a decree dated at Chihuahua, gives to the captains commanding presidios, or recognizes as already existing in them, authority to grant building lots to the soldiers and other residents, within the space of four square leagues. I do not know, but presume, that this power was exercised at San Diego, Santa Barbara, and Monterey, and hence the origin of the towns bearing those names, which, at a later period, come into view as such. At San Francisco, however, there is nothing in the archives, or elsewhere, yet discovered, to show that such a grant was ever made by the captain of the presidio. And in 1795 a commissioner was appointed under the orders of the viceroy to select a place and establish another town, who reported that "the worst place or situation in California is that of San Francisco for the formation of a villa, as proposed." And therefore the villa of Branciforte, so called in honor of the viceroy, the Marquis of Branciforte, was, by great preference, established near the mission of Santa Cruz. It never attained any consequence, and some adobe ruins may now attest its former existence.

Suspicion and exclusion were the rule towards foreigners. On the 23d of October, 1776, the viceroy writes to the governor of California: "That the king having received intelligence that two armed vessels had sailed from London, under the command of Captain Cook, bound on a voyage of discovery to the southern ocean, and the northern coast of California, commands that orders be given to the governor of California to be on the watch for Captain Cook, and not permit him to enter the ports of California." At a later day a better spirit prevailed towards Vancouver, who spent some time in 1793 in the port of Monterey. We have a voluminous correspondence of his with the governor—the letters in English, and written with his own hand. He sets forth the harmonious understanding existing between England and his Catholic Majesty of Spain, and their united efforts in the cause of humanity, and asks assistance in arresting some deserters, and obtaining supplies, &c., which he will pay for with bills on London. Instructions had been previously received by the governor to treat Vancouver well. We see in this amiability between old enemies that the great French revolution was making itself felt on this remote coast. And in some of the letters of the fathers, of a little later period, we find Napoleon spoken of as the great "Luzbel," (Lucifer,) for such he appeared to their imagination in their missions.

The first mention of an American ship occurs in the following letter from the governor of California to the captain of the presidio of San Francisco:

"Whenever there may arrive at the port of San Francisco a ship named the Columbia, said to belong to General Washington, of the American States, commanded by John Rendrick, which sailed from Boston in September, 1787, bound on a voyage of discovery to the Russian establishments on the northern coast of this peninsula, you will cause the said vessel to be examined with caution and delicacy, using for this purpose a small boat which you have in your possession, and taking the same measures with every other suspicious foreign vessel, giving me prompt notice of the same.

"May God preserve your life many years.

"PEDRO FAGES.

"SANTA BARBARA, *May* 13, 1789.

"To JOSEF ARGUELLO."

Twenty years before, this same Fages had sailed on the San Carlos to re-discover and people California. The San Carlos and the Columbia, and Fages the connecting link! The United States of America and California joined for the first time in a thought! It is impossible by any commentary to heighten the interest with which we read this document. Its very errors, even to the governor's ignorance of the geography of his own country, are profoundly suggestive.

The Columbia did not enter the ports of California, but made land further to the north, and discovered the Columbia river.

Fourteen years later, it would appear that American ships were more frequent on this coast.

On the 26th of August, 1803, José Argüello, comandante of the presidio of San Francisco, writes to governor José Joaquín de Arrillaga :

"That on the first of the present month, at the hour of evening prayers, two American vessels anchored in the port, (San Francisco,) one named the Alexander, under the command of Capt. John Brown, and the other named the Aser, under the command of Thomas Raben; that as soon as they anchored the captain came ashore to ask permission to get supplies of wood and water, when observing that he was the same Brown that was there in the preceding month of March, he refused to give him permission to remain in port; that on the day following, at six in the morning, he received a letter from the captain, (or supercargo,) a copy of which he transmits, which is as follows :

"PORT OF SAN FRANCISCO, August 12, 1803.

"*To the Señor commandante of the port :*

"Notwithstanding your order for our immediate departure from this port, I am constrained to say that our necessities are such as to render it impossible for us to do so. I would esteem it a great favor if you would come aboard and see for yourself the needy circumstances in which we are placed, for during the whole of the time we have been on the northwest coast we have had no opportunity of supplying ourselves with wood and water, the Indians being so savage that we have not been able to hold any kind of friendly intercourse with them whatever.

"We had several fights with them in the straits of Chatham; the first was in the port of Istiquin, where we were attacked by three hundred canoes, each canoe containing from ten to twenty-three Indians, each one with two or three escopetas and their pistols and spears. Three times in one day they attempted to take the ship, but we defended the same without losing any of our men.

"From this port we went to the Ensenada of Icana, in said straits, at which place we found about a thousand Indians encamped, many of whom came aboard our vessel for purposes of trade, carrying their arms in one hand and their skins in the other.

"After we had been four days in this port, all the Indians came aboard, saying that they were not afraid of the Americans, since they were but few, while there were many Indians, who had many arms.

"On the fifth day of our stay in this port, about six o'clock in the evening, three or four canoes came alongside the ship, and, on being ordered to leave, they refused, when our captain seized a gun and fired it in the air, on which the Indians laughed very much, saying he did not know how to shoot, and could not kill; whereupon the captain seized another gun, fired at and killed the Indian, on which the rest retired to the land, and all of them went to a neighboring island; and from ten o'clock at night till eight in the morning they made no further demonstrations against us, at which time we made sail, in the mean time striking upon a rock and somewhat injuring our vessel.

"From this port we went to Juan de Fuca, at which place we learned from the chief, Tatacu, that the chief Quatlazepe had taken the ship Boston; that

when the said vessel had been some four days in port, the Indian chief and the captain of the ship, having some difficulty in relation to trade, the captain of the ship said to the chief that he had traded with many chiefs to the north, and that he knew he did not act like an honorable chief; whereupon the chief Pioeque replied to the captain that he was a bad man. At this the captain seized a gun and ordered him ashore; whereupon he went to his rancheria and issued an order for the assembling of all the neighboring Indians, from the straits of Juan de Fuca to the point of Nutka, which were so assembled within three days; and, after holding a council, they determined to take the Boston, which they affected in the following manner: At seven o'clock in the morning they went aboard and asked permission of the captain to have a dance, as a ceremony of the renewal of the friendship after their recent dispute. To which the captain replied that he was willing that they should do so. Accordingly, at eight o'clock in the morning, a company of chiefs came and danced on the quarter-deck, having in the mean time ordered their people to arm themselves with knives, so that while they were dancing they could jump aboard and kill the whole crew, which they did; for while they were dancing they made presents of otter skins to the captain, and also to the sailors, who in a short time had collected on the quarter-deck, when suddenly the Indians fell upon them in their defenceless condition and butchered all save two, who escaped and concealed themselves; the Indians carrying off everything that could be removed during the whole of that day and night, and until twelve o'clock the following day; having in the mean time discovered the two hidden sailors, who, after some cruel treatment, were handed over to the chief, who spared their lives, and they are now at that place. On the following day the ship was beached, and her decks and part of the cargo burnt. Quatlazape has made a fortification at the place where the Spaniards were established.

"This is all the account I am able to give of the matter, and I pray you, in the name of God, to come aboard our ship and see the needy circumstances in which we are placed, destitute of wood and water, and our vessel needing repairs. Trusting in your Christian charity, and that of your nation, we hope to be permitted to remain in this port the time necessary to obtain supplies and make repairs, since otherwise we shall certainly lose our ship.

"God preserve your life many years.

"JAMES ROWAN."

Times have changed, and Yankee captains are not now so meek in the port of San Francisco. We do not know what John Brown had been doing in March, nor can we vouch for the truth of all the particulars of their adventures on the northwest coast, especially not for the number of escopetas and other arms carried by each Indian. The loss of the Boston was doubtless communicated to her owners and the public by John Brown and Thomas Rab(v)en on their return to the United States. The guardians of this port do not note now the arrival of foreign ships by the hour of evening prayers. There was a contrast of national habits then between the shore and the Yankee ships; and the same contrast exists undiminished between the California of 1803 and 1860. From time to time other American vessels, traders to the northwest coast, and whalers, are said to have occasionally entered these waters, but at it was a Spanish colony there could be no American commerce; and it was after the independence, therefore, that the hide trade sprung up.

With the beginning of the century earthquakes make their appearance for the first time of record in the archives, and with startling effect. I prefer, on this subject, to give the words of the contemporaneous documents:

Account of earthquake at San Juan Bautista, as given in letter of the captain of the Presidio of Monterey, to Governor Arrillaga, on the 31st of October, 1800.

“MONTEREY, October 31, 1800.

“I have to inform your excellency that the mission of San Juan Bautista since the 11th instant has been visited by severe earthquakes; that Pedro Adriano Martinez, one of the fathers of said mission, has informed me that during one day there were six severe shocks; that there is not a single habitation, although built with double walls, that has not been injured from roof to foundation, and that all are threatened with ruin; and that the fathers are compelled to sleep in the wagons to avoid danger since the houses are not habitable. At the place where the rancheria is situated some small openings have been observed in the earth, and also in the neighborhood of the river Pajaro there is another deep opening, all resulting from the earthquakes. These phenomena have filled the fathers and the inhabitants of that mission with consternation.

“The Lieutenant Don Raymundo Carillo has assured me the same, for on the 18th he stopped for the night at this mission (San Juan) on his journey from San José, and being at supper with one of the fathers, a shock was felt so powerful and attended with such a loud noise as to deafen them, when they fled to the court without finishing their supper, and that about eleven o'clock at night the shock was repeated with almost equal strength.

“The fathers of the mission say that the Indians assure them that there have always been earthquakes at that place, and that there are certain cavities caused by the earthquakes, and that salt water has flowed from the same.

“All of which I communicate to you for your information.

“May our Lord preserve your life many years.

“HERMENEGILDO SAL—.”

San Juan Bautista is the mission between the Monterey and San José, about twenty miles from the former and forty from the latter. The next mention comes nearer home.

Account of earthquake at Presidio of San Francisco, given by Louis Argüello, Captain of Presidio, to Governor Arrillaga, on the 17th of July, 1808.

“I have to report to your excellency that since the 21st of June last to the present date, twenty-one shocks of earthquakes have been felt in this presidio, some of which have been so severe that all the walls of my house have been cracked, owing to the bad construction of the same, one of the ante-chambers being destroyed; and if up to this time no greater damage has been done, it has been for the want of materials to destroy, there being no other habitations. The barracks of the Fort of San Joaquin (the name of the fort at the presidio) have been threatened with entire ruin, and I fear if these shocks continue some unfortunate accident will happen to the troops at the presidio.

“God preserve the life of your excellency many years.

“LUIS ARGUELLO.

“SAN FRANCISCO, July 17, 1808.”

It could not be said now, if such shocks as these were to come again, that the damage was limited by the “*want of material to destroy.*” I acknowledge a preference for one-story houses, and built of wood.

About this time the Russians were first seen in California. “Von Resanoff, chamberlain of the Emperor of Russia, returning from his embassy to Japan, after having inspected, by order of the court of St. Petersburg, the ports, establishments, and trading-houses that the Imperial Russian-American Fur Company possessed, as well on the side of Asia, at Kamschatka, and in the

Aleutian Islands, as on the continent and islands of the northwest coast of America, anchored at the port of San Francisco, in the month of May, 1807." So says the French traveller De Mofras, who visited "California in the years 1841 and '42." An English traveller, Sir George Simson, governor-in-chief of the Hudson Bay Company's territories, who was here in the same year with De Mofras, thus makes us acquainted with one of the parties to a story of romantic love, the first consequence of the advent of the Russians.

"After dinner, (at Captain John Wilson's, in Santa Barbara,) we were joined by the remainder of our party, the Cowlitz having by this time come to an anchor; and we again sallied forth to see a few more of the lions. Among the persons whom we met this afternoon was a lady of some historical celebrity. Von Resanoff, having failed, as elsewhere stated, in his attempt to enter the Columbia in 1806, continued his voyage as far as San Francisco, when, besides purchasing immediate supplies for Sitka, he endeavored, in negotiation with the commandante of the district and the governor of the province, to lay the foundation of a regular intercourse between Russian America and the California settlements. In order to cement the national union, he proposed uniting himself with Doña Concepcion Arguello, one of the commandante's daughters, his patriotism clearly being its own reward. If half of Langsdorff's description was correct, 'She was lively and animated, had sparkling, love inspiring eyes, beautiful teeth, pleasing and expressive features, a fine form, and a thousand other charms, yet her manners were perfectly simple and artless.'

"The chancellor, who was himself of the Greek church, regarded the difference of religion with the eyes of a lover and a politician; but as his imperial master might take a less liberal view of the matter, he posted away to St. Petersburg, with the intention, if he should there be successful, of subsequently visiting Madrid for the requisite authority to carry his schemes into full effect. But the fates, with a voice more powerful than that of emperors and kings, forbade the bans; and Von Resanoff died on his road to Europe, at Krasnoyarsk, in Siberia, of a fall from his horse.

"Thus at once bereaved of her lover, and disappointed in the hope of being the pledge of friendship between Russia and Spain, Doña Concepcion assumed the habit, but not, I believe, the formal vows of a nun, dedicating her life to the instruction of the young and the consolation of the sick. This little romance could not fail to interest us, and notwithstanding the ungracefulness of her conventual costume, and the ravages of an interval of time, which had tripled her years, we could still discover in her face and figure, in her manners and conversation, the remains of those charms which had won for the youthful beauty, Von Resanoff's enthusiastic love, and Langsdorff's equally enthusiastic admiration. Though Doña Concepcion apparently loved to dwell on the story of her blighted affections, yet, strange to say, she knew not, till we mentioned it to her, the immediate cause of the chancellor's sudden death. This circumstance might, in some measure, be explained by the fact that Langsdorff's work was not published before 1814; but even then, in any other country than California, a lady who was still young would surely have seen a book, which besides detailing the grand incident of her life, presented so gratifying a portrait of her charms."

How strange, as he justly remarks, that Doña Concepcion had never seen that book, though it had been printed more than twenty five years! [General Valjejo, who was on the stand, here informed Mr. R. that this lady had died about eight months ago.]

The Russians, in 1812, came down from the north and established themselves at the port of Bodega, with one hundred Russians and one hundred Kodiak Indians. It is said that they asked permission of the Spanish authorities before doing so. The archives are full, however, of documents from 1812 up, showing the jealousy and fear with which they were regarded by Spain, and afterwards, by

Mexico. They occupied a strip along the coast from Bodega northwards, and only a few leagues in depth, but without any precisely fixed limits.

In 1841 this establishment was at its best, consisting of eight hundred Russians, or Russo-Asiatics, with a great number of native Indian tribes around them, working for wages. It was to circumscribe these intruders that the priests crossed over and founded the mission of San Rafael in 1819, and of San Francisco Solano at Sonoma in 1823, and commenced another at Santa Rosa in 1827. The Russians raised some grain and cattle, and trapped enormously. De Mostras, whom I follow, says that the Kodiaks, in their sealskin boats, made bloody warfare upon the seals, beavers, and especially the otters; that they hunted all the coasts, the adjacent islands, and even the marshes and innumerable inlets of the Bay of San Francisco; and that there were weeks when this bay alone produced seven or eight hundred otter skins, which may be true, but seems to me to be a very large number. In 1842 the Russians all left of their own accord, after having held their possessions, in the character of a Russian colony, for thirty years, as completely as they now hold Sitka, and without apparently paying the slightest attention to the priests or the soldiers who crossed over to look after them. At their fort of Ross, situated amid a forest of gigantic pines, a Greek chapel reared its cross and belfries, with a most pleasing effect. The nearest Catholic mission was but a little way off. Rome and Constantinople here met upon this coast, after a course of so many centuries, in opposite directions around the globe.

While Europe was convulsed, and America shaken, the profoundest quiet prevailed in California. After a long time they would hear of a great battle, or of the rise or fall of an empire, to perturb the souls of priests and other men. But the government had other duties to perform, patriarchal and simple. On the 11th of February, 1797, Felipe de Goycochea, captain of the presidio of Santa Barbara, writes to Governor Borica, as follows:

"I transmit to you a statement in relation to the schools of the presidio, together with six copy-books of the children, who are learning to write, for your superior information. May our Lord preserve your life many years.

"Santa Barbara, February 11, 1797.

"FELIPE GOYCOCHEA."

These copy-books are now in the archives for inspection. As they are the property of the State, I will give samples, which being translated, read: "The Ishmaelites having arrived;" "Jacob sent to see his brother;" "Abimelech took her from Abraham." Good, pious texts, and written in an old-fashioned round hand. Such was the employment of governors and captains in that stormy time; and so it continued through all the period of the mighty conflicts of Napoleon. Even the more protracted commotions of Mexico herself wrought no disturbance here. The dominion of Spain came to an end in California, after fifty-two years of such peacefulness, without a struggle. Mexico having established her independence, California gave in her adherence in the following declaration:

DECLARATION OF INDEPENDENCE IN CALIFORNIA.

In the presidio of Monterey, on the 9th day of the month of April, 1822: The señor military and political governor of this province, Colonel Don Pablo Vicente de Sola, the señors captains comandantes of the presidios of Santa Barbara and San Francisco, Don Jose Antonio de la Guerra y Noriega, and Don Luis Antonio de Arguello, the captains of the militia companies of the battalion of Tepic and Mazatlan, Don José Antonio Navarrete, and Don Pablo de la Portilla, the lieutenant Don José Maria Estudillo for the presidial company of San Diego, the lieutenant Don José Mariano Estrada for the presidial company of Monterey, the lieutenant of artillery, Don Manuel Gomez, and the reverend fathers, Friar Mariano Payeras, and Friar Vicente Francisco de Sarria,

the first as prelate of these missions, and the second as substitute of the reverend father president vicareo foraneo, Friar José Jenan; having assembled in obedience to previous citations (convocatorias) in the hall of the government house, and being informed of the establishment of the kingdom of the empire, and the installation of the sovereign provisional gubernative junta in the capital of Mexico, by the official communication and other documents, which the said governor caused to be read in full assembly, said: that, for themselves, and in behalf of their subordinates, they were decided to render obedience to the orders intimated by the new supreme government, recognizing, from this time, the province as a dependent alone of the government of the Empire of Mexico, and independent of the dominion of Spain, as well as of any other foreign power. In consideration of which, the proper oaths will be taken, in the manner prescribed by the provisional regency, to which end the superior military and political chief will give the necessary orders, and the respective commandantes of presidios and the ministers of the missions will cause the fulfilment of the same to appear by means of certificates, which will be transmitted, with a copy of this act, to the most excellent minister, to whom it corresponds, and they signed,

PABLO VICENTE DE SOLA,
 JOSÉ DE LA GUERRA Y NORIEGA,
 LUIS ANTONIO ARGUELLO,
 JOSÉ M. ESTUDILLO,
 MANUEL GOMEZ,
 PABLO DE LA PORTILLA,
 JOSÉ MARIANO ESTRADA,
 FR. MARIANO PAYERAS,
 FR. VICENTE FRANCISCO DE SARRIA,
 JOSÉ M. ESTUDILLO.

One of the signers of this instrument, Pablo Vicente de Sola, was at that time governor under Spain, and held over for a year as governor still under the kingdom of the empire, as expressed in the declaration, and two others are the chiefs of the ecclesiastical authorities, viz. the prelate of the missions, and the substitute of the reverend father president of the missions. The style does not much resemble our immortal instrument; and, as another difference, we observe that all the parties to it are either priests or soldiers.

The Spanish governors were in all ten. Their names and the time they were respectively in office, as follows:

Gaspar de Portala.....	1767 to 1771
Felipe de Barri.....	1771 to 1774
Felipe de Neve.....	1774 to 1782
Pedro Fages.....	1782 to 1790
Jose Antonio Romeu.....	1790 to 1792
Jose J. de Arrillaga, (<i>ad interim</i>).....	1792 to 1794
Diego de Borica.....	1794 to 1800
Jose Joaquin de Arrillaga.....	1800 to 1814
Jose Arguello, (<i>ad interim</i>).....	1814 to 1815
Pablo Vicente de Sola.....	1815 to 1822 and 1823

Under Mexico the list continues:

Luis Arguello.....	1823 to 1826
Jose Ma. de Echandia.....	1826 to 1831
Manuel Victoria.....	1831 to 1832
Pio Pico, (<i>ad interim</i>).....	1832
Jose Figueroa.....	1832 to 1835
Jose Castro, (<i>ad interim</i>).....	1835 to 1836
Nicholas Gutierrez.....	1836
Mariano Chico.....	1836
Nicholas Gutierrez, (again for a few months).....	1836
Juan B. Alvarado.....	1836 to 1842
Manuel Micheltorena.....	1842 to 1845
Pio Pico.....	1845 to 1846

California, as a matter of course, accepted the republic as readily as the empire. But it was difficult to throw off old habits, and the following document discloses a temper towards strangers not creditable to a liberal government. It is of greatly more value, however, as the recorded evidence of the arrival of the first American who ever came to California by land. Let him tell his own story.

Letter from Captain Jedediah S. Smith to Father Duran.

REVEREND FATHER: I understand, through the medium of one of your Christian Indians, that you are anxious to know who we are, as some of the Indians have been at the mission and informed you that there were certain white people in the country. We are Americans, on our journey to the river Columbia; we were in at the mission San Gabriel in January last. I went to San Diego and saw the general, and got a passport from him to pass on to that place. I have made several efforts to cross the mountains, but the snows being so deep, I could not succeed in getting over. I returned to this place (it being the only point to kill meat) to wait a few weeks until the snow melts, so that I can go on; the Indians here also being friendly, I consider it the most safe point for me to remain, until such time as I can cross the mountains with my horses, having lost a great many in attempting to cross ten or fifteen days since. I am a long ways from home, and am anxious to get there as soon as the nature of the case will admit. Our situation is quite unpleasant, being destitute of clothing and most of the necessaries of life, wild meat being our principal subsistence.

I am, reverend father, your strange, but real friend and Christian brother,
J. S. SMITH.

May 19, 1827.

His encampment must have been somewhere near the mission of San José, as it was there that Father Duran resided. Who is there that does not sympathise with Jedediah Smith? "I am a long ways from home, and am anxious to get there as soon as the nature of the case will admit. Our situation is quite unpleasant, being destitute of clothing and most of the necessaries of life, wild meat being our principal subsistence. I am, reverend father, your strange, but real friend and Christian brother."

Thus we came to this country the Browns and Smiths first, and in but an unhappy plight.

As Jedediah Smith's letter shows, he had been here before. At that time he had been required to give an account of himself, but had been able to find vouchers, shipmasters, all of them doubtless from Boston, who had come to buy the hides which under the new system were now within the reach of commerce:

"We, the undersigned, having been requested by Captain Jedediah S. Smith to state our opinions regarding his entering the province of California, do not hesitate to say that we have no doubt in our minds but that he was compelled to for want of provisions and water, having entered so far into the barren country that lies between the latitudes of forty-two and forty-three west that he found it impossible to return by the route he came, as his horses had most of them perished for want of food and water. He was, therefore, under the necessity of pushing forward to California, it being the nearest place where he could procure supplies to enable him to return.

"We further state as our opinions that the account given by him is circumstantially correct, and that his sole object was the hunting and trapping of beaver and other furs.

"We have also examined the passports produced by him from the Superintendent of Indian Affairs for the government of the United States of America, and do not hesitate to say we believe them to be perfectly correct.

We also state, that in our opinion, his motive for wishing to pass by a different route to the head of the Columbia river on his return, is solely because he feels convinced that he and his companions run great risk of perishing if they return by the route they came.

In testimony whereof, we have hereunto set our hands and seals this 20th day of December, 1826.

WM. G. DANA, <i>Captain of schooner Waverly.</i>	[L. S.]
WM. H. CUNNINGHAM, <i>Capt. of ship Courier.</i>	[L. S.]
WM. HENDERSON, <i>Capt. of brig Olive Branch.</i>	[L. S.]
JAMES SCOTT.	[L. S.]
THOS. M. ROBBINS, <i>Mate of schooner Waverly.</i>	[L. S.]
THOS. SHAW, <i>Supercargo of ship Courier.</i>	[L. S.]

In extenuation, however, it may be said that Anglo-Americans had long been viewed with uneasiness in this quarter. It was prophesied as early as 1805 that they would become troublesome to California. So wrote a governor in an official letter now in the archives.

In a recent number of a magazine, (Harper's for June, 1860,) Sylvester Pattie, his son, and six others, are said to have been the first who accomplished the journey overland from the United States to California. The dates mentioned in that account show that they could not have reached Lower California, where they first arrived, sooner than 1829 or 1830, as it is said they left the Missouri river in 1824, and remained more than five years in New Mexico. The Patties, therefore, cannot dispute this honor with Jedediah Smith.

After the adoption of the federal Constitution of 1824, by which was established the Mexican United States, the governor of California was called the political chief of the Territory, and was aided by a council known as the territorial deputation. The government of the Territory continued subject to the sovereign congress at the city of Mexico, as formerly that of the province had been to the viceroy. Thus much will be a sufficient introduction for the next paper. It is to be regretted that it was not known to the gentleman who designed the coat of arms adopted for this State.

"In session of the 13th of July, 1827, of the territorial deputation, a proposition was made to change the name of the Territory to *Moctesuma*, the arms of the same to be an Indian with his bow and quiver, in the act of crossing a strait, placed in an oval, with an olive and live oak on either side; the same being symbolical of the arrival of the first inhabitant to America, which, according to the generally received opinion, was by way of the straits of Anian."

The conception is poetical and simple, and differs in this particular widely from the confused medley of incongruous figures with which we have chosen to illustrate our idea of California. The name *Moctesuma* is very significant. It shows how the Mexican, since his independence, has preferred to draw his opinions, as he derives his blood, from the conquered rather than the conquerors. A late but signal triumph of race! California was near losing the name given her by heroes who came across the Atlantic, for one suggestive of a descent from an imaginary people who came across Behring's straits.

The Russians and the American trappers, estrays dropping in from the mountains, seemed to have taught the Californians the value of furs. The government of the Territory very naturally made this new business a source of revenue. They sold licenses to trap. To obtain this privilege was rather a formal matter. Here is an example:

Juan B. R. Cooper petitions the governor for a license to trap with ten boats, for seven months, for otters. The governor refers the petition to the alcalde, to know whether Mr. Cooper is *matriculated in the marine*, i. e., a seaman. The alcalde reports that he belongs to the first class of seamen, and the governor orders a license to be issued to Mr. Cooper to hunt otters from the parallel of

San Luis Obispo to Bodega, two-thirds of the crews of his boats to be natives of the country. There are many others who get licenses, whose names are familiar to the oldest of the living pioneers. Edward McIntosh got his on January 9, 1834, William Wolfskill his September 21, 1833; and many of the old Californians embarked in the same business, as Angel Castro, March 25, 1833, and Juan Bandini on the 9th of April, 1833.

Internal disturbances seem to have commenced in California about the year 1830. The liberal Spanish Cortez of 1813, in carrying out the constitution which they had adopted for the Spanish monarchy the year before, decreed the secularization of all the missions in the Spanish dominions. The design was to make general what had always been done before by special authority—to liberate the Indians from the control of the missionary fathers, and divide amongst them, as their separate property, the land, cattle, and whatever else they had owned in common; to establish secular priests in the place of regular priests or monks of the religious orders among them, for their spiritual guidance, and in every respect to convert the Indian villages of the missions into Spanish pueblos—the process by which, in so great a degree, society was constructed in all Spanish-American countries, and the ultimate fulfilment of the purpose of the King, everywhere so prominently put forth in colonizing California.

The decrees of the Cortez, not incompatible with the republican form of government, continued after the establishment of her independence to be the laws of Mexico, but very few, if any, of them had been put into operation in California. With the rest, that of secularization remained a dead letter. Enchandia, the political chief, (as the governor was then entitled,) in 1830, very hurriedly, and without consulting the supreme government, published, as the custom of the government was, a set of regulations for carrying this old law into effect. At that moment he was superseded by Victoria, who suppressed the regulations, and put a peremptory stop to the secularization of the missions. Victoria's conduct was approved by the supreme government, but there was a party here warmly in favor of the secularization, and disturbances which were considered serious and threatening ensued, although I do not know that they resulted in bloodshed. The chief promoter of the scheme was sent out of the country by Victoria; and thus, I think, civil strife commenced in California. The occasion was the disposition to be made of the missions, which, we have seen, were once, and for so long a time, so nearly all of California. It was the beginning of the downfall of those ancient establishments, so difficult for us to comprehend, and now so entirely passed away that to recall them is like recalling the images of a dream. What the government of Mexico was opposed to was not the secularization of the missions, but the manner in which it was attempted. The agitation which had been thus commenced resulted in the passage, by the Mexican congress, of the law of the 17th of August, 1833, to secularize the missions of the Californias. Under it the work was begun by Figueroa, the best and ablest of the Mexican governors. At the same time he had two other laws, most fundamentally subversive of the old order of things, to carry into execution. They were the law for the political organization of the Territory, being another of those decreed by the Spanish Cortes in 1813, and the law of colonization, passed by the Mexican congress, August 18, 1824, with the executive regulations, prescribing the manner of its application, dated November 21, 1828. It is evident that this is the true era of revolution in Mexican California. Observing the ancient limits of the presidial jurisdictions, municipal governments were established for each district. Authority was exercised by elective bodies called *ayuntamientos*, of which the head was an *alcalde* or judge. This body regulated the economy of the whole district, directly of the *pueblo* in which it resided, and of every other *pueblo* in the district, through the intervention of local and subordinate *ayuntamientos*. This was the separation of the civil functions from the military functions, both of which had been continued in the hands of the commanders

of the presidios, as in the Spanish times. Here in San Francisco, and for all the region north of San Mateo creek, east indefinitely, and west to the ocean, the separation of powers took place in December, 1834, at which time the ayuntamiento was established for the civil government of this presidial district, and General M. G. Vallejo, then in command of the presidio, was left with only his military command. In the secularization of the missions, Figueroa advanced so far as to put administrators in possession in place of the fathers, at which stage his proceedings were arrested by a decree of the Mexican President. Ruin was inevitable; it was as rapid as spoliation could make it, and it was soon complete. Governor after governor adopted regulations upon regulations, to secure a faithful administration of the property of the missions, *i. e.*, of the Christian Indians, who inhabited them, and by whose labor all had been built and accumulated. It was to no purpose; and of as little avail was the partial restoration of the missions to the charge of the fathers, by Micheltorena in 1843. The Indian was by nature a very little above the brute; the fathers were not able to elevate him in spite of nature; the administrators stripped him without compunction; and, when the United States conquered the country, he was already exterminated, his destruction complete in ten years. When emancipation began, Figueroa says there were twenty thousand Christian Indians in the missions of California.

Colonization was another idea introduced by the Spanish Cortes in 1813. It was embodied in the Mexican law of colonization of 1824. The scheme was to reduce all the public lands of the State to private property. The Spanish rule before 1813 had ever been to make such grants the exception, and to retain all lands, generally speaking, as the domain of the King. Other Mexican governors may have made informal grants of which nothing appears, but Figueroa was the first to inaugurate the system of which we find the records in the archives. He established a course of proceeding in exact accordance with the law and the regulations, and adhered to it strictly, and executed it conscientiously, and with great intelligence. From the lands subject to be granted are excepted such as belong to pueblos and missions. Of pueblos, *i. e.*, villages, there were but two, San José and Los Angeles, or three, including the unprosperous Villa de Branciforte. Whatever lands these owned were at their foundation surveyed, marked out, and set apart to them, and then recorded. The same course was followed with such of the presidios as were converted into pueblos, as at Monterey, and would have been pursued with the missions when converted into pueblos, if that change had not been arrested. In these cases there could have been no uncertainty as to what lands the governor could grant. With the missions untouched, or incompletely secularized as they were left, there was difficulty. The title of the Indian who had consented to become a Christian and a civilized man, binding as it was upon the king, had always been indefinite as to quantity, and as to the situation of his lands, save that it should be at and about the mission; in which essential particulars it rested altogether in the King's discretion, exercised by the proper officers of his government. The Mexican republic stepped into the same relation to these Christian Indians. That no injustice might be done them, every petition was referred to the priests, and afterwards to the administrators of the missions. They were asked whether the grant could be made without prejudice to the Indians. As they replied so were the grants given or withheld. So it was at least in Figueroa's day, and that, no matter how far the land petitioned for was from the nearest mission. Other governors were neither so exact nor so conscientious as Figueroa. And as, in the hands of the administrators to whom they were delivered over, the missions went rapidly down to complete ruin, it is evident that the lands required for the Indians would become continually less—such would be, and was, the answer of their new guardians to the inquiries of the governor—and finally all was granted, and in some cases, it is alleged, even

the missions themselves. Their cattle without the aid of a grant from the governor took the same course. It is not too much to say that when the United States in 1846 took possession of the country they found it passing through a conquest still raw and incomplete. It was the conquest of the missions and the Christian Indians by the settlers of the presidios and pueblos, who at first had been introduced into the country mainly for their benefit, to aid the king and the church in carrying out their pious and humane intentions towards them. Yet it was well that it was so. Who that looks upon the native Digger Indian could wish that a superior race should be sacrificed or postponed for his benefit? We contemplate a miserable result of the work begun with so much zeal and heroism in 1769. But because they failed, we none the less respect the motives and the laborers, whether of church or state.

The unworthiness of the Californian Indian did not altogether deprive him of sympathy. Every government expressed some feeling at seeing him hasten so rapidly to his wretched end. And the just and kind-hearted Figueroa battled for him manfully. In the midst of the complex labors of his administration he was almost crushed by the arrival of three hundred persons, for whom he had to make provision, without resources, and who came under the charge of a director of colonization, instructed by the supreme government, at that time radically democratic, to begin operations by taking possession of the property of the missions and admit the new colonists to a division of it with the Indians. During the winter of 1834-'35 Figueroa and the director carried on an animated discussion in writing, on the subject of the last of these propositions. Figueroa maintained that the missions were the private property of the Indians, and protected from invasion by the constitution. The director insisted upon the letter of the order of the supreme government. Figueroa said it was improvident, and refused to obey it until he could make a representation to the supreme government on the subject. The end was that some of the partisans of the director attempted an insurrection at Los Angeles, in the spring of 1835, which was easily suppressed, but furnished Figueroa the opportunity to send the director and the heads of his faction back to Mexico. Of these, the principal was the same man who had been sent out of California by Victoria for the same cause, a desire to have a part in the secularization of the missions. The colony, however, remained, and, though numbering but three hundred, was a great addition to the population of California in those days. Among them we find the names of several persons who afterwards became conspicuous in the country, amongst them José Abrego, José Ma. Covarrubias, Augustin Olvera, and Francisco Guerrero.

Figueroa died at Monterey, on the 29th of September, 1835, his death being probably hastened by the effect of the anxiety and vexation of this controversy upon a constitution already broken. At that time his manifesto to the Mexican republic, in which he gives a clear and forcible statement of the whole affair, and an able vindication of his conduct, was going through the press at Monterey. His death seems to have been very greatly deplored at that time, and he is still recognized as the ablest and most upright of the Mexican governors. His work of the political organization of California lasted but a little while; it fell with the overthrow of the federal constitution of 1824, by Santa Anna, in 1836. California then became a department; political chief was changed into governor, and territorial deputation into departmental assembly.

These changes, however, were not fully completed in California until 1839. The department of the Californias was then divided into three districts; the first extending from the frontier of Sonoma to San Luis Obispo, its principal point or seat of administration being the old Mission of San Juan, on the Pajaro river; the second district included the rest of Upper California, the seat of its administration being the city of Los Angeles, which had been promoted to that rank from the original condition of a pueblo, in the year 1835; and the third comprised Lower California, which, after a separation, was now reunited with

Upper California. These districts were divided each into two partidos, of which, consequently, there were four in Upper California. Ayuntamientos were abolished, and a justice of the peace substituted in each partido. For the whole district there was a prefect, who resided at the seat of the administration of one of the partidos, and a sub-prefect, who resided at that of the other partido. In 1843 Micheltorena, acting under extraordinary powers, made some changes in this system, but it was substantially restored by Pio Pico, in 1845, but when again Lower California was thrown off.

With Figueroa everything like stability, and indeed order, passed away. The next year after Figueroa's death, the Californians drove away the governor, and Don Juan B. Alvarado being at that time president of the territorial deputation, was declared governor. After this was done the deputation went one step further and on the 7th of November, 1836, passed these resolutions :

(1.) "California is declared independent of Mexico until the re-establishment of the constitution of 1824."

(2.) "California is erected into a free and sovereign State, establishing a congress," &c., &c.

Public documents for a while were headed "Free and Sovereign State of California." This anomalous state of things lasted until 1838. The demands of the free and sovereign state were not complied with, nor on the other hand was the central government disposed or perhaps able to push the controversy to extremes. In 1838 Alvarado was appointed governor *ad interim*; and constitutional governor in 1839, when we have seen that the innovations of Santa Anna took effect. Whilst California was in rebellion the president of Mexico commissioned Carlos Antonio Carillo as governor. Alvarado refused to recognize him, and accepted the aid of a party of Americans who since the time of Jedediah Smith seem to have found their way into the country. Alvarado prevailed over Carillo; and his appointment as governor *ad interim* compromised the difficulties of those times. Here is a document relating to this contest, which will serve to illustrate California warfare. It is the report of General José Castro to Governor Alvarado, dated the 28th of March, 1838:

"I have the honor to announce to your excellency, that after two days' continual firing without having lost but one man, the enemy took to flight, under cover of night, numbering one hundred and ten men; and I have determined to despatch one company of mounted infantry, under the command of Captain Villa, and another of cavalry lancers, under the command of Captain Cota, in their pursuit, remaining myself, with the rest of the division, and the artillery, to guard this point," &c., &c.

And here is another of the same period. It now appears that the Americans who sided with Alvarado had fallen under suspicion and into disfavor at about the time that their chief made up his differences with the central government and received his commission as governor *ad interim*. They were all arrested, some fifteen or twenty, perhaps, it is said, by surprise, and sent to Mexico. Amongst them was Mr. Isaac Graham, of Santa Cruz. This paper will also serve as a specimen of California eloquence at that period, and I commend it at the present moment as a model to our political orators.

Proclamation made by the undersigned.

"Eternal glory to the illustrious champion and liberator of the department of Alta California, Don José Castro, the guardian of order, and the supporter of our superior government.

"Fellow citizens and friends: To-day, the eighth of May of the present year of 1840, has been and will be eternally glorious to all the inhabitants of this soil in contemplating the glorious expedition of our fellow-countryman, Don José Castro, who goes to present himself before the superior government of the

Mexican nation, carrying with him a number of suspicious Americans, who under the mask of deceit, and filled with ambition, were warping us in the web of misfortune; plunging us into the greatest confusion and danger; desiring to terminate the life of our governor and of all his subalterns; and finally to drive us from our asylums, from our country, from our pleasures, and from our hearths.

"The bark which carries this valorous hero on his grand commission goes filled with laurels and crowned with triumphs, plowing the waves and publishing, in distinct voices to the passing billows, the loud vivas and rejoicings which will resound to the remotest bounds of the universe. Yes, fellow citizens and friends, again we say that this glorious chief should have a place in the innermost recesses of our hearts, and be held as dear to us as our very breath. Thus we desire, and in the name of all the inhabitants, make known the great rejoicings with which we are filled, giving, at the same time, to our superior government the present proclamation which we make for said worthy chief; and that our governor may remain satisfied that if he (Castro) has embarked for the interior of the republic, there still remain under his (the governor's) orders all his fellow-countrymen, companions in arms," &c., &c.

The foregoing is signed by seven citizens of note and respectability in the country. When this laurel-laden vessel reached San Blas the Mexican authorities took a different view of the matter. They put General Castro in prison and Graham and his companions in the best hotel in the place, (he says a palace,) and entertained them handsomely until they could send them back to California, which they did at the expense of the government.

In 1839 Captain John A. Sutter, a man who had seen many vicissitudes and adventures in Europe and the wilds of America, arrived in California from the Sandwich islands. By permission of Governor Alvarado he established himself in the valley of the Sacramento, then the extreme northern frontier. He engaged to protect the Mexican settlements extending in that direction under the colonization law (the only vital thing left of the Mexican rule for many years) from the incursions of the Indians, and he kept his word.

In 1841 he obtained a grant of land himself and built a fort, which soon became the refuge and rallying point for Americans and Europeans coming into the country. Over all these Sutter, by virtue of an appointment as justice of the peace, exercised whatever government there was beyond the law of the rifle. Practically his powers were as indefinite as the territorial limits of his jurisdiction. Among those who early gathered around Sutter we find the names of John Bidwell, who came in 1841, and Pearson B. Reading and Samuel J. Hensley, who came in 1843, and many others well known at the present day.

The pioneers of that day all bear testimony to the generosity of Captain Sutter at a time when his fort was the capital and he the government for the American colony in the valley of the Sacramento. In 1844 the numbers of this population had come to be so considerable as to be a power in the State. In the revolution which then occurred Sutter took the side of Governor Micheltorena. But before he marched he took the reasonable precaution, so obviously required by justice to his men, to obtain from Micheltorena a grant of the land for which they had respectfully petitioned. Micheltorena then issued the document known as the General Title.

In this document he declares that every petition upon which Sutter, in his capacity of justice of the peace, had reported favorably, should be taken as granted, and that a copy of this document given to each petitioner should serve in lieu of the usual formal grant. This done, he marched to the south, but was unfortunate, for he was taken prisoner, and Micheltorena expelled from the country. This is the last of the civil wars of California.

In the spring of 1846 General Castro in the north, and Pio Pico, the governor, in the south, were waxing hot against each other, and preparing for new conflicts, when the apparition of Captain Frémont, with his small surveying party

of old mountaineers, and the hardy and indomitable pioneers of the Sacramento valley, and the bear flag, put an end to their dissensions. Castro had himself prepared the way for this aggression by driving Frémont and his surveying party out of the Mexican settlements a few months before. The colony on the Sacramento necessarily sympathized with Frémont; and rumors, more or less well founded, began to run through the valley of hostile intentions towards all the American settlers. But resentment and anticipations of evil were not the sole cause of this movement. There cannot now be a doubt that it was prompted as it was approved by the government of the United States, and that Captain Frémont obeyed his orders no less than his own feelings.

Frémont was still on the northern side of the bay of San Francisco when the American flag was hoisted at Monterey, on the ever-memorable seventh day of July, 1846.

Before the war the government of the United States had fully determined, so far as that matter rested with the Executive, upon the conquest and permanent retention of California as soon as the outbreak of war should offer the opportunity. Orders, in anticipation of war, were issued to that effect, and it was under these orders that California was actually taken. The danger of that day was that England would step in before us. Her ships were watching our ships on the coast of Mexico. The British pretext, it is said, was to have been to secure an equivalent for the Mexican debt due to British subjects; and it is understood that there was a party here who favored this design.

Because Commodore Sloat did not rush to the execution of the orders issued in anticipation of war, on the very first report of a collision between the United States and Mexico, the anxious Secretary of the Navy, dreading to lose the prize, hotly censured him in a letter which reached him after the event had broken the sting of its reproaches, and served only to assure him how well he had fulfilled the wishes of his government. The flag of the United States was no sooner flying than the Collingwood entered the bay of Monterey. There had been a race between the Collingwood and the Savannah. What a moment that was for us, and for the world! What if the Collingwood had been the swifter sailer, and Sloat had found the English flag flying on the shore! What if we had been born on another planet! The cast was for England or the United States, and when the die turned for us, the interest was at an end.

As a feat of arms the conquest of California was nothing for a power like ours. Even more feeble and as much distracted as the rest of Mexico, and with but a nominal dependence upon the central government, but a very little force was sufficient to detach California forever from all her Spanish-American connections. Whatever of military credit there was is due to the pioneers who, under the bear flag, had, before they heard of the beginning of the war, with an admirable instinct for their own rights and the interests of their country, rebelled against any further Mexican misrule, or a sale to the British. The loyalty of their sentiments was beautifully illustrated by the alacrity with which they relinquished the complete independence which appeared to be within their grasp, and turned over their conquests and the further service of their rifles to the country which they remembered with so much affection, and a government from which they would suffer themselves to look for nothing but wisdom and strength, and a tender consideration for the rights and interests of the pioneer.

For three years and a half when there was no war, and for nearly two years after there was a declared peace, California was governed, and for a great part of the time heavily taxed, by the executive branch of the government of the United States, acting through military officers. This I note as an anomaly in the experience of the citizens of this republic.

California separated from Mexico, a new people began to come in from the United States and Europe. But California was remote and yet but little understood. Mr. Webster himself spoke of her as almost worthless, except for the

bay of San Francisco, and as though the soil was as barren and thorny as the rocks of Lower California. Emigrants came, but not many—among the most remarkable arrivals being the ship Brooklyn, freighted with Mormons. The soldiers themselves were nothing more than armed colonists. And everything was peaceful and dull, until suddenly, when no man expected, there came a change of transcendent magnitude.

Gold was discovered at Coloma. This was an event that stirred the heart of the whole world. The motives which pervade and most control the lives of men were touched. All the impulses that spring from necessity and hope were quickened; and a movement was visible among mankind. To get to California, some crossed over from Buenos Ayres to Valparaiso, scaling the Andes. The Isthmus of Darien became a common thoroughfare. Peaceful invaders entered Mexico at every point, and on every route startled the drowsy muleteer as they passed over to the Pacific where the coast was nearest, or pushed on directly for California. Constant caravans issued from our own borders, traversed every intervening prairie, and explored every pass and gap of opposing mountains. As the long train descended to the valley, perhaps the foremost wagon is driven by an old man, who when he was a boy moved out in this way from Virginia to Kentucky; and passing still from one new State to another, now when he is grown gray halts his team at last upon the shores of the Pacific. Ships sailed from every port on the globe. The man at the wheel, in every sea, steered by the star that led to San Francisco. So came the emigrants of 1849. The occupation of California was now complete, and she became a part of the world.

The sighs, the prayers, the toiling and the watching of our overwearied countrymen on these long painful journeys are still demanding a railroad to the Pacific.

Eleven years are passed, and have they no voice? We looked out upon a wide expanse—unfenced, untilled—and though nature was lovely, our hearts sunk within us. Neither the priest nor the ranchero had prepared this country for our habitation. We asked who shall subdue all this to our uses? We look again; and now, upon a landscape chequered with smiling farms and dotted with cities and towns, busy and humming like the hive. What magic is it that has wrought this change? On every hand, with one acclaim, comes back the answer. Labor, it is labor. Of our eleven years, here is the lesson. Man's opinions and his passions were but insolence and vanity. Boasting and praise made but the greatness of the passing day. And labor, only labor, has survived. However silent, however humble and unseen, or on what bestowed, it is labor which has created California, and which rules us at this hour. With our own eyes this we have seen, and of our knowledge we know the lesson to be as true as it is old.

California in full possession of the white man, and embraced within the mighty area of his civilization! We feel the sympathies of our race attract us. We see in our great movement hitherward in 1849 a likeness to the times when our ancestors, their wives and little ones, and all their stuff in wagons, and with attendant herds, poured forth by nations and in never-ending columns from the German forests, and went to seek new pastures and to found new kingdoms in the ruined provinces of the Roman empire: or when swayed by another inspiration they cast their masses upon the Saracens, and sought to rescue the sepulchre of Christ from the infidels. We recognize that we are but the foremost rank of that multitude which for centuries has held its unwavering course out of Europe upon America, in numbers still increasing; a vast unsummoned host, self-marshaled, leaderless, an innumerable, moving and onward forever, to possess and people another continent. Separated but in space, divided but by the accidents of manners, of language and of laws—from Scandinavia to California—one blood

and one people. Knowledge is but the conservation of his thoughts, art but the embodiment of his conceptions, letters the record of his deeds. Man of our race has crowned the earth with its glory! And still in the series of his works you have founded a State. May it be great and powerful whilst the ocean shall thunder against these shores! You have planted a people; may they be prosperous and happy whilst summers shall return to bless these fields with plenty! And may the name of the pioneer be spoken in California forever!

Since the foregoing address was delivered the following letter has been received by Mr. Randolph from Mr. Sprague, a gentleman well known in this city, and interesting as showing the discovery of gold in California thirty-five years ago:

GENOA, CARSON VALLEY, *September 18, 1860.*

FRIEND RANDOLPH: I have just been reading your address before the Society of Pioneers. I have known of the J. S. Smith you mention, by reputation, for many years. He was the first white man that ever went overland from the Atlantic States to California. He was a chief trader in the employ of the American Fur Company. At the rendezvous of the company on Green river, near the South Pass, in 1825, Smith was directed to take charge of a party of some forty men (trappers) and penetrate the country west of Salt lake. He discovered what is now called Humboldt river. He called it Mary's river, from his Indian wife Mary. It has always been known as Mary's river by mountain men since, a name which it should retain, for many reasons.

Smith pushed on down Mary's river; being of an adventurous nature, when he found his road closed by high mountains he determined to see what kind of country there was on the other side. It is not known exactly where he crossed the Sierra Nevada, but it is supposed that it must have been not far from where the old emigrant road crossed near the head of the Truckee. He made his way southerly after entering the valley of Sacramento, passed through San José and down as low as San Diego. After recruiting his party and purchasing a large number of horses, he crossed the mountains near what is known as Walker's Pass, skirted the eastern slope of the mountains till near what is now known as Mono lake, when he steered an east-by-north course for Salt lake. On this portion of his route he found placer gold in quantities, and brought much of it with him to the encampment on Green river.

The gold that he brought with him, together with his description of the country he had passed through, and the large amount of furs, pleased the agent of the American Fur Company so well that he directed Smith again to make the same trip, with special instructions to take the gold fields on his return and thoroughly prospect them. It was on this trip that he wrote the letter to Father Duran. The trip was successful until they arrived in the vicinity of the gold mines, east of the mountains; when, in a battle with the Indians, Smith and nearly all of his men were killed. A few of the party escaped and reached the encampment on Green river. This defeat damped the ardor of the company so much that they never looked any more for the gold mines.

There are one or more men now living who can testify to the truth of the above statement, and who can give a fuller statement of the details of his two journeys than I can.

The man Smith was a man of far more than average ability, and had a better education than falls to the lot of mountain men. Few or none of them were his equals in any respect. * * * * *

THOMAS SPRAGUE.

EDMUND RANDOLPH, Esq., *San Francisco.*

APPENDIX 2.

Address on the acquisition of California by the United States, delivered before the Corporate Society of California Pioneers, at the Academy of Music, in the city of San Francisco, on September 10, 1866, on occasion of the sixteenth anniversary of the admission of the State of California into the federal Union. By John W. Dwinelle, a member of that society, president of the Ethno-Historical Society of San Francisco, member of the Ethnological Society of New York, and of the Historical Society of New York.

MR. PRESIDENT AND BROTHER PIONEERS: It has been suggested to me, by the committee through whose hands I received your invitation to address you at this time, that I should give a historical character to my address. I was glad to receive this intimation, for it accorded perfectly with my own desire. The great events of history, when not sufficiently remote to be counted by centuries, are commonly reckoned by decades, or periods of ten years. We are met on the occasion of the sixteenth anniversary of the admission of California into the federal Union of the United States. But, presuming upon your assent, I shall dedicate a portion of these exercises to the celebration of two other historical events of signal interest and importance, namely: the conquest of California by the United States, which took place twenty years ago, on the 7th day of July, A. D. 1846, and the foundation of San Francisco, which was consummated ninety years ago, on the 17th day of September, A. D. 1776. Two decades have therefore elapsed since California has become Anglo-American, and nine decades since San Francisco was inscribed upon the map of political geography. It will therefore be peculiarly interesting on this occasion to cast a retrospective glance into history, and to inquire how it has come to pass that we are here, and by what title we claim to possess this fair California of ours.

IGNORANCE OF EARLY GEOGRAPHERS.

It was only by accident, after all, that Columbus discovered the vast region of continents and islands which are now called America. He was not in quest of new continents, nor of the golden-fruited gardens of the Hesperides. Believing, from inductive reasoning, that the earth was round, but with very imperfect notions of its magnitude, he was firmly persuaded that by sailing in a westerly direction from the coast of Spain, he would in due time arrive on the coast of China, which was then classed as a portion of the Indies; and when he discovered the first American islands, believing that he had already reached the Indies, he gave to the natives the name of Indians, which inaccurate classification they have ever since retained. Looking over the books and maps of the old geographers, it is curious and wonderful to observe how much they did know, and how much they did not know, of the geography of the northwestern coast of America for more than two hundred years after the discoveries made by Columbus. Although Cortez, when he fell into that inevitable disgrace with which the kings of Spain have always rewarded their greatest benefactors, sent out various expeditions from Mexico for the exploration of the northwestern coast, and even accompanied some of them as far as La Paz, in Lower California, and although the viceroys who succeeded him sent out various expeditions within fifty years after the conquest of Mexico, both by sea and by land, which must have penetrated as far north as the 42d degree of latitude, yet the physical geography of that region remained in the most mythical condition, and the very existence of the Bay of San Francisco was contested as fabulous by the Spanish viceroys of New Spain less than a hundred years ago. There is in the possession of the Odd Fellows' library of this city an engraved map of the world, published at Venice in the year 1546, which is remarkable for its general accuracy, and for the beauty of its execution; but on this map, at the latitude of San

Francisco, the American continent is represented as sweeping around in a large circle, and forming a junction with that of Asia; while the Colorado, the largest river in the world, rising in the mountains of Thibet, and meandering through a course of 15,000 or 20,000 miles, pours its vast volume of waters into the Gulf of California. In the year 1588, a Spanish captain of marine, named Lorenzo Ferrer Maldonado, published an account of a voyage which he pretended to have made from the Atlantic ocean, through the Northern sea, to the Pacific, and thence to China, giving all its geographical details and personal incidents. This apocryphal voyage proved a delusion and a stumbling-block to historians and voyagers for more than two hundred years, and it was not until the year 1791 that two Spanish frigates, sent out for that purpose by authority of the King of Spain, by a thorough exploration of the extreme northwestern coast, established the fact that a passage through the North sea did not exist, and that the pretensions of Maldonado were utterly false. It is only within a comparatively recent period that the fact has been generally received in modern geography that California was connected with the main continent, and was not an island. In Ogilvie's "America, being the latest and most accurate account of the New World," a most elegant and luxurious folio, published in London in the year 1671, California is laid down as an island, extending from Cape St. Lucas, in the tropic of Cancer, to the 45th degree of latitude, and including the famous New Albion of Sir Francis Drake. The same map is reproduced by Captain Shelvocke, of the royal navy, in his account of his "Voyage Around the World by way of the South Sea," in his Majesty's ship-of-war, published in London in 1726; and in a geographical work published in London in the same year, by "Daniel Coxe, esq.," an account is given of "a new and curious discovery and relation betwixt the river Meschachebe (Mississippi) and the South sea, which separates America from China by means of several large rivers and lakes, with a description of the coast of the said sea to the Straits of Uries, as also of a rich and considerable trade to be carried on from thence to Japan, China, and Tartary." I cannot ascertain that California was relieved of its insular character among geographers until the publication of a map by Father Begert, a missionary of the Society of Jesus, in an account of Lower California which he printed at Manheim in the year 1771, on his return to Germany after his order had been expelled, in 1769, by order of the King of Spain, from the missions which they had successfully established among the Indians of Lower California. Even after it was admitted that California was not an island, but a part of the main land, the most indefinite notions prevailed as to the extent to which the Gulf of California penetrated towards the north; and to the very last of the Spanish and Mexican dominion, when any specific description was given to California in official documents, it was spoken of as a peninsula.

OUR TITLE TO CALIFORNIA.

If a Californian of ordinary historical intelligence were asked by what legal title we assume to possess this country, after following the chain through Mexico to Spain he would probably pause for want of further specific information, or, at the most, suggest that Spain derived her title to California through the right of first discovery. If he were told that all the rights of Spain, and our rights through her, to this land were derived entirely from a grant made to Spain by the Pope, he would undoubtedly be greatly surprised; yet such is the historical fact. Previous to the discovery of America by Columbus, in 1492, the Portuguese had discovered the Azore islands, in longitude 31 west, and on the strength of that discovery claimed that the countries discovered by Columbus belonged to the crown of Portugal, and that the Spaniards should be wholly excluded from them. But the Spaniards refused to admit this pretension, and referred

the matter for decision to the then Pope, Alexander VI. It was then a part of the law of nations, and of the public law of the world, that the Pope was the ultimate source of all temporal power; that he could make and unmake kings, and dispose of all the kingdoms of the earth—powers which he frequently exercised, and against which it were vain to contend. He was, therefore, by general consent, the acknowledged source of all lawful title to land. He assumed to decide the case thus referred to his decision, and on May 3, A. D. 1493, determined the matter in dispute between the crowns of Portugal and Spain by drawing an imaginary line of longitude one hundred leagues west of the Azores, and granting to the Spanish monarchs all countries inhabited by infidels which they had already discovered, or might afterwards discover, lying to the west, and to the crown of Portugal all those lying to the east of that line. This line was afterwards removed two hundred and seventy leagues further to the west, by a treaty subsequently made, in the year 1494, between the Kings of Portugal and Spain; but so thoroughly was the title thus conceded by the Pope respected by the civilized world that when Henry VII of England was afterwards about to intrude upon some of the dominions thus granted to Spain, he abandoned his project on being warned by the Pope to desist. Our title to California is therefore deduced from the grant by the Pope to Spain, from Spain by revolution to Mexico, from Mexico by conquest and treaty to the United States, and from the United States, by the operation of various grants and political acts, to the State and people of California.

At the time when this partition was thus made by the Pope between the crowns of Spain and Portugal, the earth was supposed to consist of a large plain, even although Columbus had been prompted to his discoveries from his inference that the earth was a sphere, because in eclipses it cast a circular shadow upon the disc of the moon. It was not until the voyage of Magellan, concluded in the year 1521, by which they reached the Spice islands of Portugal, in the East Indies, by sailing westward from Spain, that it was proved by actual demonstration that the earth was round, and the world learned that neither our spiritual teachers, nor even the Scriptures themselves, were given to us to teach us lessons in geography.

OUR POSITION HERE NOT AN ACCIDENTAL ONE.

Our position, as possessors of this land of realized promise and of future hope, is by no means an accidental one. The popular notion probably is that the acquisition of California by the United States was one of the accidental consequences of our war with Mexico, which broke out in 1846. On the contrary, the acquisition of California by the United States was the result of plans long matured and persistently followed, and of a train of causes carefully laid by the government of the United States, during nearly half a century before its consummation. Nay, more: not only the United States, but the governments of England, France, and Russia had determined to acquire California; and it was only by superior promptness and skill that the United States finally became the winners in the race. The very plan lately attempted to be put into execution by the Emperor of the French, of placing and maintaining an Austrian archduke upon an imperial throne in Mexico, was not conceived by Napoleon III, but was matured and published to the world by the government of Louis Philippe as early as the year 1844, four years before the French revolution of 1848, and was a part of a scheme devised by the French government to prevent England or the United States from getting possession of Mexico, in case France could not gain it for herself. From this programme, published by the order of Louis Philippe by Marshal Soult, his minister of war, we shall gather easily the charges made by France against Mexico before the tribunal of the public opinion of the world, by which Louis Philippe attempted to justify, in

advance, that intervention in the affairs of Mexico which his government was the first to propose, and which that of Napoleon III has since attempted to effectuate. The following are the principal features of these charges :

LOUIS PHILIPPE'S BILL OF INDICTMENT AGAINST MEXICO.

Mexico was always prosperous under the rule of her Spanish kings. Private enterprises succeeded ; agriculture and mines were successful and remunerative ; public works were constructed of utility, magnitude, and permanence ; religion and public and private morality prevailed ; the finances of the country were successful and prosperous ; the people were contented and happy. The attainment of independence from the mother country has completely reversed these happy conditions. There is now no security for property or for private enterprise. The agriculture of the country is becoming reduced to the rudest processes, its products are diminishing from year to year, and the lands are returning to waste ; the mines are neglected and deserted, and falling into a state of ruin. Public works are no longer constructed, and those which were erected under the dominion of Spain are mostly deserted and falling into a condition of dilapidation and ruin. The priesthood is becoming corrupt, and public and private morals are rapidly falling to the lowest point of degradation. The finances of the country have long since been in a condition of insolvency, and the expenditures have for many years exceeded the receipts by an annual deficiency of several millions of dollars. The army is composed of bandits ; it is recruited by taking from the public prisons convicted murderers and other malefactors, who have yet to serve a term of imprisonment not less than ten years, and granting them a free pardon on condition of their serving five years as soldiers. The officers of the army, who, under the government of Spain, belonged to distinguished and educated families, are now drawn from the most despicable classes, or rise by promotion from the ranks of this bandit soldiery ; and the disproportion of officers is so great that the army of 20,000 soldiers is commanded by 84,000 officers, who are entirely deficient in military faith and personal honor ; they murder in cold blood their political and military prisoners ; they protect robbers and share their spoils ; they are accomplices in assassination and murder ; and theft is practiced by every one from the President of the republic down to the lowest officers of the custom-house. Republican Mexico has always been the enemy of France, oppressed her commerce, and practiced the most atrocious tyranny upon our citizens resident in her territory. She has discriminated against French products, first by her tariffs, and afterwards in the manner in which she has executed her custom-house regulations. She has, on the most frivolous and unlawful pretences, confiscated the property of French merchants, for which acts of robbery and violence she owes them at this time several millions of dollars, for which she refuses to make them the least compensation. She has thus fallen to the lowest condition of insolvency, brigandage, and ruin. She is a public nuisance and robber on the highway of nations ; and any nation, especially those having claims against her, has a right, as a matter of international policy, to interfere and establish a solid government in Mexico, which shall fulfil the obligations of national faith towards the world, maintain order, decency, and morality, and secure life, liberty, and property within her own borders. This can be done only by the establishment of a Mexican monarchy ; for republican institutions have been tried there, and have resulted in an utter and hopeless failure. The best citizens of Mexico desire the re-establishment of a monarchy ; those who are distinguished for their piety, morality, culture, and the possession of property are willing to pledge themselves in advance to the support of the movement. Some of her most distinguished statesmen, in the face of threats of assassination, have already publicly declared, in the capital of Mexico, that the adoption of this plan presented the only possible

hope for the restoration of Mexico to a condition of respectability and prosperity. "But there are certain conditions necessary to the success of this scheme. The new monarchs of Mexico must be Catholic, and must have family ties connecting them with the dynasties which formerly ruled in Mexico. The infantas of Spain, the French princes, and the archdukes of Austria possess these requisites, and any one of them would be unanimously welcomed by the Mexican population. The establishment of any monarchy whatsoever in Mexico is of the greatest importance to the policy of France, for a stable government erected there would at once remove the disabilities and oppression to which our commerce and citizens are subjected in that country; and this can easily be accomplished, for a column of 3,000 infantry, and a few vessels-of-war distributed upon the Atlantic and Pacific coasts are all that is wanted to subdue the empire of Montezuma, whose conquest would be easier to-day than it was in the time of Hernando Cortez!"

LOUIS PHILIPPE ENFORCES THE NECESSITY OF PROMPT ACTION.

But, continues the programme, if a Catholic monarchy is to be established in Mexico, it should be done at once. The English, among all foreign nations, have a preponderating political and commercial interest in Mexico. English subjects own a large portion of the funded debt of Mexico, upon which the annual interest is not paid, although pretended to be secured by an illusory charge upon the customs. She is ready, therefore, at any moment, to make this a pretext for seizing any portion of the coast or territory of the republic. She has already acknowledged the independence of the revolted provinces of Texas, with a view of taking them under her protection, or of establishing even more intimate political relations with them. She has by her intrigues hitherto prevented the United States from acquiring any portion of the Mexican territory; and, if she retains her present influence at Mexico, and still more, if she adds to it by gaining any territory there, or in any other manner, the results cannot fail to be most disastrous to the interests of France.

The United States, too, have for more than forty years looked upon the territories of Mexico with that covetousness of acquisition which has ever distinguished that energetic people. The expedition of Burr would have been hailed with favor if it had been successful, and his acquittal by a jury must be taken as evidence of the popular sentiment in favor of the objects of his expedition. After the purchase of Louisiana from France, and by the treaty of Florida, so called, and by other subsequent treaties, the United States gained a large extension of territory in the direction of the Pacific, and brought down their possessions in Oregon and on the Pacific coast to the forty-second parallel of latitude. They even sought, by other propositions communicated to the court of Spain for the avowed purpose of defining the boundaries between the two countries south of that parallel, and proposing limits which were altogether too vague for geographical or political boundaries, but which they would have found sufficiently specific for the purpose of intrusion, to gain a further extension of territory in the direction of New Mexico; but these latter propositions were indignantly rejected by the Spanish monarchy. But since the establishment of Mexican independence, and the weakness, demoralization and ruin which have resulted from it, Mexico has seemed to the United States to have become an easy prey to their grasping ambition. They have permitted their own citizens to pass in armed bands over their borders into Texas, and there to stir up revolt, which has culminated in successful revolution; they have acknowledged the independence of that country with the view to its annexation to the Union as one of the federal States. A treaty of annexation is at this moment in progress between Texas and the United States, and will doubtless be accomplished as the crowning act of the present adminis-

tration of President Tyler. When that treaty is ratified by the contracting parties, the military establishment of Texas will be occupied by the forces of the United States, and war will immediately ensue between the United States and the Mexican republic. That war can issue in but one result: the armies of the United States will overrun and occupy the territories of the weaker republic, and they will be at once and forever absorbed in the domain of the federal Union. If France, therefore, determines to protect her interests by the establishment of a Catholic monarchy in Mexico, she should act promptly and decisively.

LOUIS PHILIPPE CONSIDERS THE DOMINION OF THE UNITED STATES IN MEXICO PREFERABLE TO THAT OF ENGLAND.

But if Mexico is still to exist under a republican government, it is much better for the interests of France that she should be absorbed by the North American Union than that England should either maintain or increase her influence there. The people of the United States have a strong instinct for a government of law, and even the administration of their famous "lynch law," in their newly settled territories, arises from their sentiment of order. Under their rigid administration, the persons and property of French citizens in Mexico would be protected and respected, and we should not be compelled to make vain reclamations on the government for official robberies and confiscations. The sentiment of the people of the United States is favorable and even friendly to France, and under their dominion we should not have occasion to complain of odious and hostile discriminations against our commerce, and what we should gain in these respects, England would be certain to lose. She would no longer be the nation favored either by the terms of the laws, or by their violation in her behalf, but would be reduced, at least, to a position of equal competition in matters of commerce, which is all that France desires. Our property would be respected, the lives of our citizens would be secured, and, on equal terms, we could exchange our products for the agricultural and mineral riches of Mexico.

GRANDEUR OF THE AMERICO-MEXICAN DOMINION.

This programme of the government of Louis Philippe concludes with a prediction of the future greatness of the United States, which might well excite the envy of the most enthusiastic eulogist of "the American bird of liberty:—"

"If this takes place, the Union will command the Pacific ocean, through that part of the territory of Oregon which will belong to her—through California and the western coast of Mexico, Guatemala, Central America, and New Granada. On the east, she will be mistress of the Atlantic coast, from Canada to the Isthmus of Darien, and thus will threaten the group of islands situated at the entrance of the Gulf of Mexico, and in the Caribbean sea."

FAILURE OF THE FRENCH PROGRAMME IN MEXICO.

It is instructive to pause a moment and contemplate the results of this proposed scheme for the overthrow of republican institutions and the establishment of a monarchy in Mexico. Louis Philippe, its responsible author, and the crafty schemer who prostituted the interests of France to the aggrandizement of his own family, and who had thus published to the world this libellous imputation of degeneracy and weakness against the republic of Mexico, was himself, within four years afterwards, driven from the throne, and his dynasty subverted, without his having the courage to permit a single musket-shot to be fired in their defence. His scheme has since been taken up by his successor, Napoleon III, a monarch of greater sagacity, resources, and force of will. But the Mexican

population has not received an Austrian archduke as their emperor with unanimous acclamations; a column of three thousand men has not conquered the Empire of Montezuma; and the republic of Mexico still lives!

ATTEMPTS OF VARIOUS GOVERNMENTS TO ACQUIRE CALIFORNIA.

But while a covetousness of all the territories of the Mexican republic was thus charged upon some of the great political powers of the world, upon circumstances of mere suspicion, the desire to acquire California was openly avowed by several of them, and made equally manifest by the acts of others. France, in particular, endeavored to qualify herself for the conquest of California, by a previous exploration of the country of the most thorough and accurate character. In 1841, Marshal Soult, the French minister of war, detached from the French legation at Mexico one of its attachés, M. Duflot de Mofras, a gentleman perfectly competent for that purpose, with directions to make a thorough exploration of California in respect to military resources, geography, agriculture, natural history, meteorology, geology, population, and civil and political history. This work he accomplished during a sojourn of two years, during which, as he himself states, he visited every mission, every village, and every rancho in California. The results of his exploration were published to the world by the French government at the same time with their programme in regard to Mexico, of which I have above spoken. This publication was accompanied with charts of all the harbors on the coast of California, with their soundings; with the most explicit and accurate directions for entering them from the ocean; and with plans of all the forts and presidios of California, which were so accurate that a distinguished military officer of the United States, to whom I lent them, was enabled to retrace, at San Diego, the lines of some of the old fortifications there, respecting which the officers in command at that station could not obtain any other reliable information.

I shall trespass upon the patience of my audience by reproducing many of the details of the report of this remarkable exploration. The inhabitants, said De Mofras, in substance, are very friendly to France, for they are tired of the republic, and desire a return to the old form of government. They hate the Americans, because they are rapacious, protestant, and republican. They incline towards France, because she is monarchical, powerful, catholic, and is of the same Latin race to which they themselves belong. They have a presentiment of the approaching downfall of the Mexican republic, and would hail in advance their annexation to a strong European monarchy. The Americans, however, and the English, have set their hearts upon the acquisition of California. England has already offered to take California in payment of that portion of the public debt of Mexico which is held by British subjects, amounting to several millions sterling, and to liquidate that debt herself, while the United States have already offered \$5,000,000 for that portion of California lying north of a line of latitude drawn at equal distances from the bay of San Francisco and that of Monterey. While I was at San Francisco I visited a fleet of American vessels-of-war (Wilkes's exploring expedition) lying in the harbor there, and was received hospitably on board by the officers, who made no secret of the fact that they were executing a thorough survey of the harbor and of the surrounding country. During my stay in California I also visited English men-of-war lying in the same harbor, and evidently sent there for the same purpose. English men-of-war are almost always constantly cruising on the coast, as if waiting for a pretext or opportunity to seize the country. The Americans have constantly a naval force upon the coast, with instructions to seize the capital upon probable information of a rupture between Mexico and the United States. And in the year 1842, Commodore Jones, upon such a rumor, which afterwards proved to be unfounded, actually seized Monterey, the capital of California, and raised the

American flag there; but, upon learning that the information upon which he had acted was not true, he restored the place to the California authorities; "yet, in my opinion, having once taken it, he would have done better to have kept it, and also to have seized the port of San Francisco." There are many persons in California who are friendly to France, and who can be very useful to us; one of our countrymen, Maturin, at San Francisco; Baric, a Frenchman, at Los Angeles; Suñol, a Spaniard by birth, who served in the French navy, who speaks our language well, who was on the French brig which Napoleon quitted, in 1815, when he surrendered himself to the captain of the *Bellerophon*. The most important point on the northwestern coast of the Pacific is the port of San Francisco, which is in reality the key of the northwest coast of America and of the northern Pacific ocean, Captain Beechey, of the royal British navy, in 1813, describes it as being "sufficiently extensive to contain all the British navy, well sheltered, and with good anchorage everywhere, surrounded with a country varied with hills and valleys, partly wooded and partly of fine pasturage, and abounding with cattle of every kind." "It is easy to enter this harbor from the ocean," says De Mofras; "one should, after crossing the bar, lay well to the south, having the island of Alcatraz on a line with the fort, and then, on approaching the gate or strait, one should keep in the centre until Point Bonita is well passed, and then sail well over to the north. There is a dangerous reef, called Blossom rock, which lies on a line drawn from the southwestern point of Yerba Buena island and that of Alcatraz, which is to be avoided; but just behind the point of Saucelito lives an Englishman, who is married to a native Californian, one Captain Richardson, who is captain of the port, and an excellent pilot. There is no military force in California. There are no garrisons at the presidios. The gun-carriages at the forts have rotted away, and the guns, which were mostly cast at Manilla, more than a hundred years ago, lie rusting on the ground. It is perfectly clear that California will belong to whatsoever nation will take the trouble to send there a ship-of-war and two hundred soldiers."

EFFORTS OF THE UNITED STATES TO OBTAIN POSSESSION OF CALIFORNIA.

Having thus giving a résumé of the French report of our own intentions and desires respecting the acquisition of California, I shall endeavor to give an authentic account of them, and of those of other governments. It is true, as above stated, that the English offered to receive Upper California in payment of a portion of the public debt of Mexico; and it is also undoubtedly true that the English were prepared to avail themselves of the pretext of an indemnity for that debt to take possession of California upon any favorable conjuncture. It is also true that the acquisition of California had long been an object much desired by the government of the United States. As early as the year 1835 President Jackson proposed to the government of Mexico to purchase that portion lying east and north of a line drawn from the Gulf of Mexico along the eastern bank of the Rio Bravo del Norte up to the 37th degree of north latitude, and thence along that parallel to the Pacific ocean. This would have included within the proposed cession to the United States all the Bay of San Francisco, and the territory to the north and east of it, and have left to the south the bay of Monterey. This proposition was favorably received by the Mexican government, and would doubtless have been accepted had it not been for the intrigues and powerful remonstrances of the British diplomatic representatives. The American government, however, did not relinquish its designs, nor desist in the execution of its plans for promoting the desired result. It continued to encourage and protect the emigration of its citizens to California. It caused to be made scientific and popular explorations by land, such as those of Frémont, and by sea, such as those successfully and thoroughly made by Wilkes's exploring expedition.

Indeed, it is more than suspected that the main object of organizing Wilkes's exploring expedition was a thorough hydrographic survey of the harbor of San Francisco and its tributaries—a work which was so well accomplished that the maps and soundings of the bays and rivers from San Francisco to Sacramento, which were made on that occasion, are reliable to the present time. What Frémont's instructions were on his last expedition to California is a well-kept cabinet secret, which will probably not be divulged, at least in our time; but it is evident from his course of action that he was directed, in case of receiving reliable information of the breaking out of war, to do all in his power to secure possession of California. It is also very certain that the commanders of the American men-of-war cruising on the coast of California had explicit instructions not to suffer the country to fall into the hands of any other power. And the popular impression is that the English were about to take possession of California, and were prevented only by the seizure of Monterey by Commodore Sloat on the 7th of July, 1846.

MOVEMENTS OF THE CALIFORNIANS IN RELATION TO THEIR ANNEXATION TO A FOREIGN POWER.

Meanwhile the natives of California, with that instinctive apprehension of the coming storm which seems to prevail in the political as well as in the natural world, began to consult upon the policy of preventing the anticipated acts of foreign governments by declaring their independence of Mexico, and placing California under the protection of some great political power. In the year 1836 Don Juan Bautista Alvarado revolted against Mexico, and by the aid of sixty American riflemen, headed by Isaac Graham, drove Gutierrez, the constitutional governor of California, out of the department, and was himself proclaimed governor in his stead. Acting in conjunction with General Mariano Gaudalupe Vallejo and Don José Castro, and aiming at annexation with the United States, he declared California to be completely independent of Mexico, and erected into a free and sovereign state—*el Estado libre y soberano de la Alta California*—and raised a flag like that of the United States, but with a single star. This revolt was finally abandoned on certain concessions being made by the central government, including the appointment of Alvarado as constitutional governor. In 1842 President Santa Anna sent General Manuel Micheltorena to California as governor and commandant general, with 150 persons to act as officials, and an army of 300 convicts, drawn from the prisons of Mexico.* But he

* I should not dare to credit this act of Santa Anna if it were not officially substantiated beyond any doubt. It was published at the time, at Mexico, in *El Observador Judicial y de Legislacion*, 1842, vol. i, p. 372, and also afterwards, in the *Coleccion de los Decretos y Ordenes de Interes Comun. que dicto el gobierno provisional en virtud de las bases de Tacubaya, Mexico: Imprenta de J. M. Lara*, 1850, page 352, under date of February 22, A. D. 1842, and is in the following terms:

" MINISTERIO DE JUSTICIA E INSTRUCCION PUBLICA.

" Exmo. Señor el exmo. Señor Presidente Provisional, en uso de la Facultad que concede et art. 7º de las bases acordadas en Tacubaya y juradas por los representantes de los departamentos, ha tenido a cien disponer: que de los reos sentenciados à presidio que existan en las cárceles de esta capital, se destinen trescientos al departamento de Californias, escogiendo al efecto à los que sengan algun oficio ò industria util; en el concepto de que si al llegar á aquel destino hubieren guardado buena conducta, à juicio del gobierno departamental, se les recajará una parte de su condéna, ò se les indultará del todo, segun los servicios que prestaren, y aun se auxiliará à sus familias para que vayan á unirse con ellos, dandoles terrenos y los instrumentos que necesiten para colonizar: (with the purpose of retating a part or the whole of their term of punishment, according to the services they render; and also their families shall be assisted to join them, and lands and implements of cultivation furnished them.)

" Lo que tengo el honor de comunicar a V. E. para su debido cumplimiento, y que se sirva hacer saber esta suprema disposition á los presidiarios que al indicato efecto fueren escogidos.

" Exmo. Señor Gobernador del Departamento de Mexico."

too, after a stormy administration, was forced to retire, in the year 1845, after having stipulated with the insurgents by the treaty of Cahuenga—so styled from the rancho of that name where it was conducted—that he and his adherents might march away with their side-arms with all the honors of war. The crisis of severance from the mother republic became every day more inevitable. Dissatisfied as the Californians were with the exactions and oppressions of the central government, and with the importation from Mexico of a convict soldiery, who graduated from the camp to become turbulent citizens or ferocious bandits, the question of secession from Mexico was freely discussed and its policy approved. They differed only as to what great political power should be invoked for protection and annexation. The departmental assembly of California, in the year 1846, passed a law for the election of delegates to a junta, or extraordinary convention, to be styled “The general council of the united pueblos of the Californias : *el concejo general de los pueblos unidos de California*,” which was to meet at Santa Barbara on June 15, 1846, for the purpose of determining the destiny of California. Meanwhile the resident consuls and agents of the three great powers which were striving for the possession of California—Forbes for Great Britain, Guys for France, and Larkin for the United States—commenced their movements and counter movements, each hoping to gain the predominating influence in the coming convention. But the result of an informal meeting of some of the leading men of California, at the house of Don José Castro, in Monterey, dissipated all these hopes, and showed that the convention, even if held, must prove an utter failure. On that occasion a native Californian, whom it would be invidious to mention, as he is now a loyal citizen of California, but who then represented the monarchical party, spoke as follows : *

“Excellent Sirs, to what a deplorable condition is our country reduced ! Mexico, professing to be our mother and our protectress, has given us neither arms, nor money, nor the materials of war for our defence. She is not likely to do anything in our behalf, although she is quite willing to afflict us with her extortionate minions, who come hither in the guise of soldiers and civil officers to harass and oppress our people. We possess a glorious country, capable of attaining a physical and moral greatness corresponding with the grandeur and beauty which an Almighty hand has stamped upon the face of our beloved California. But although nature has been prodigal, it cannot be denied that we are not in a position to avail ourselves of her bounty. Our population is not large, and it is sparsely scattered over valley and mountain, covering an immense area of virgin soil, destitute of roads, and traversed with difficulty ; hence it is hardly possible to collect an army of any considerable force. Our people are poor, as well as few, and cannot well govern themselves and maintain a decent show of sovereign power. Although we live in the midst of plenty, we lay up nothing ; but, tilling the earth in an imperfect maner, all our time is required to procure subsistence for ourselves and our families. Thus circumstanced, we find ourselves threatened by hordes of Yankee emigrants, who have already begun to flock into our country, and whose progress we cannot arrest. Already have the wagons of that perfidious people scaled the almost inaccessible summit of the Sierra Nevada, crossed the entire continent, and penetrated the fruitful valley of the Sacramento. What that astonishing people will next undertake, I cannot say ; but in whatever enterprise they embark, they will be sure to prove successful. Already are these adventurous land-voyagers spreading themselves

The alleged design of converting California into a convict colony was only a flimsy pretext for furnishing Micheltorena with three hundred desperate soldiers ; still, it is interesting to know that the intention of making our State the Botany Bay of Mexico was once thus officially announced.

* The speeches which follow were reduced to writing at the time, by the late Thomas O. Larkin, then American consul at Monterey. The first had already been delivered, in substance, in the Departmental Assembly.

far and wide over a country which seems suited to their taste. They are cultivating farms, establishing vineyards, erecting mills, sawing up lumber, building workshops, and doing a thousand other things which seem natural to them, but which Californians neglect or despise. What, then, are we to do? Shall we remain supine, while these daring strangers are overrunning our fertile plains, and gradually outnumbering and displacing us? Shall these incursions go on unchecked, until we shall become strangers in our own land? We cannot successfully oppose them by our own unaided power, and the swelling tide of emigration renders the odds against us more powerful every day. We cannot stand alone against them, nor can we creditably maintain our independence even against them, nor can we creditably maintain our independence even against Mexico; but there is something which we can do, which will elevate our country, strengthen her at all points, and yet enable us to preserve our identity and remain masters of our own soil. Perhaps what I am about to suggest may seem to some faint-hearted and dishonorable. But to me it does not appear so. It is the last hope of a feeble people, struggling against a tyrannical government, which claims their submission at home, and threatened by bands of avaricious strangers from without, voluntarily to connect themselves with a power able and willing to defend and preserve them. It is the right and duty of the weak to demand support from the strong, provided the demand be made upon terms just to both parties. I see no dishonor in this last refuge of the oppressed and powerless, and I boldly avow that such is the step I would now have California take. There are two great powers in Europe, which seem destined to divide between them the unappropriated countries of the world. They have large fleets and armies not unpracticed in the art of war. Is it not better to connect ourselves with one of these powerful nations than to struggle on without hope, as we are doing now? Is it not better that one of them should be invited to send a fleet and an army to protect California, rather than we should fall an easy prey to the lawless adventurers who are overrunning our beautiful country? I pronounce for annexation to France or England, and the people of California will never regret having taken my advice. They will no longer be subjected to the trouble and grievous expense of governing themselves, and their beef, and their grain, which they produce in such abundance, would find a ready market among the new comers. But I hear some one say, "No monarchy!" But is not monarchy better than anarchy? Is not existence in some shape better than annihilation? No monarchy! And what is there so terrible in a monarchy? Have we not all lived under a monarchy far more despotic than that of France or England, and were not our people happy under it? Have not the leading men among our agriculturists been bred beneath the royal rule of Spain, and have they been happier since the mock republic of Mexico has supplied its place? Nay, does not every man abhor the miserable abortion christened the republic of Mexico, and look back with regret to the golden days of the Spanish monarchy? Let us restore that glorious era. Then may our people go quietly to their ranchos, and live there as of yore, leading a merry and thoughtless life, untroubled by politics or cares of state, sure of what is their own, and safe from the incursions of the Yankees, who would soon be forced to retreat into their own country."

To these arguments General Mariano G. Vallejo, a native of California, whom we are proud to number among the members of this society, and who has not lost our esteem in consequence of the assaults made upon him by those who have succeeded in confiscating so large a portion of that landed property of the native Californians, whose possession was guaranteed to them by the treaty of Guadalupe Hidalgo, replied as follows:

"I cannot, gentlemen, coincide in opinion with the military and civil functionaries who have advocated the cession of our country to France or England. It is most true that to rely any longer upon Mexico to govern and defend us

would be idle and absurd. To this extent I fully agree with my distinguished colleagues. It is true that we possess a noble country, every way calculated, from position and resources, to become great and powerful. For that very reason I would not have her a mere dependence upon a foreign monarchy, naturally alien, or at least indifferent to our interests and our welfare. It is not to be denied that feeble nations have in former times thrown themselves upon the protection of their powerful neighbors. The Britons invoked the aid of the warlike Saxons, and fell an easy prey to their protectors, who seized their lands and treated them as slaves. Long before that time, feeble and distracted provinces had appealed for aid to the all-conquering arms of imperial Rome, and they were at the same time protected and subjugated by their grasping ally. Even could we tolerate the idea of dependence, ought we to go to distant Europe for a master? What possible sympathy could exist between us and a nation separated from us by two vast oceans? But waiving this insuperable objection, how could we endure to come under the dominion of a monarch?—for although others speak lightly of a form of government, as a freeman I cannot do so. We are republicans. Badly governed and badly situated as we are, still we are all, in sentiment, republicans. So far as we are governed at all, we, at least, profess to be self-governed. Who, then, that possesses true patriotism will consent to subject himself and children to the caprices of a foreign king and his official minions? But, it is asked, if we do not throw ourselves upon the protection of France or England, what shall we do? I do not come here to support the existing order of things, but I come prepared to propose instant and effective action to extricate our country from her present forlorn condition. My opinion is made up that we must persevere in throwing off the galling yoke of Mexico and proclaim our independence forever. We have endured her official cormorants and her villanous soldiery until we can endure no longer. All will probably agree with me that we ought at once to rid ourselves of what may remain of Mexican domination. But some profess to doubt our ability to maintain our position. To my mind there comes no doubt. Look at Texas and see how long she withstood the power of united Mexico. The resources of Texas were not to be compared with ours, and she was much nearer to her enemy than we are. Our position is so remote, either by land or sea, that we are in no danger from a Mexican invasion. Why, then, should we hesitate still to assert our independence? We have indeed taken the first step by electing our own governor; but another remains to be taken. I will mention it plainly and distinctly. It is annexation to the United States. In contemplating this consummation of our destiny I feel nothing but pleasure, and I ask you to share it. Discard old prejudices, disregard old customs, and prepare for the glorious change which awaits our country. Why should we shrink from incorporating ourselves with the happiest and freest nation in the world, destined soon to be the most wealthy and powerful? Why should we go abroad for protection, when this great nation is our adjoining neighbor? When we join our fortune to hers we shall not become subjects, but fellow-citizens, possessing all the rights of the people of the United States, and choosing our own federal and local rulers. We shall have a stable government and just laws. California will grow strong and flourish, and her people will be prosperous, happy, and free. Look not, therefore, with jealousy upon the hardy pioneers who scale our mountains and cultivate our unoccupied plains, but rather welcome them as brothers who come to share with us a common destiny."

Upon the conclusion of these remarks General Vallejo and his friends retired in a body from the meeting, and he immediately addressed a letter to the governor reaffirming the views which he had expressed, and declared that he would never assist in any project for annexation to any nationality except that of the United States, or hold any office under any government which proposed to surrender California to any European monarchy; and thereupon he and his sup-

porters retired to their homes. This movement on the part of General Vallejo destroyed the prospects of the convention, so that, although its members were elected, it never met for want of a quorum; and within a few months thereafter California was in the possession of the United States, by the taking of Monterey, by Commodore Sloat, on July 7, A. D. 1846.

ENDEAVORS OF RUSSIA TO OCCUPY CALIFORNIA.

Meanwhile the Russians had for some time been quietly insinuating themselves upon the northern coast of California, with a view to its permanent occupation. In the year 1812 they established themselves at the port of Bodega, having previously obtained permission to do so from the authorities of Spain, for the alleged purpose of maintaining fisheries and hunting for furs. But already, as early as the year 1815, they had established large ranchos in the interior, had purchased cattle of the Spanish inhabitants, and had devoted themselves to the rearing of herds and the production of wheat. During the revolutionary troubles in Mexico, the Russians held themselves to have become the actual owners of the territory which they occupied. About forty miles from Bodega, beyond the river San Sebastian, they constructed a fort, which they called Slawianski, but which the Mexicans designated as the Fort of Ross. Over this floated the Russian flag, and a military governor was in command, appointed by the Czar of Russia. So carefully was this military colony fostered by its own government, that it possessed one-sixth of the white population of California in the year 1842. But, on the final acquisition of California by the United States, the military colony was withdrawn, and most if not all the Russian population retired at or about the same time.

THESE VARIOUS GOVERNMENTS HAD NO KNOWLEDGE OF THE MINERAL WEALTH OF CALIFORNIA.

When we consider what the causes were which have so rapidly developed California to her present position, it seems surprising to us that the existence of precious metals within her limits was not only not suspected, but was even most authoritatively denied. The acquisition of California was considered desirable by all these nations, because it was known that her conditions of climate and soil were such, that her agricultural sources and productions must be almost incalculable; that she must become the seat of an immense population of a highly civilized and prosperous people, and there form the nucleus of an empire of political and commercial power which must exert a controlling influence over all the coasts of the Pacific ocean. The United States, in particular, found themselves almost in contiguity with the future seat of so much prosperity, wealth, and power, and naturally desired that it should become their own. But although rumors of the existence of gold in California had occasionally been heard, still they had never been verified, or traced to any reliable source; and they were regarded as we now regard the fabulous stories of the golden sands of Gold lake, or those of "Silver Planches," which are said to exist in the inaccessible deserts of Arizona. It seems strange to us, that, when the geological character of this country was so well known and so minutely described, the existence of the precious metals in any large quantity should have been so explicitly denied. De Mofras uses the following language:

"There are no minerals which can be exported from California. The mines of silver and of lead which are situated near Monterey are known only by the result of some very simple assays. Some deposits of marble, of copper and iron, some traces of mineral coal which are found near Santa Cruz, some mines of ochre, sulphur, asphaltum, kaolin, and of salt, have not been examined with sufficient care. The only mine at present operated in this country is a vein of virgin gold near the mission of San Fernando, which yields about an ounce a day of pure gold, and is worked by a Frenchman named Baric.

"The geological constitution of the soil of California is very simple. The base of the Rocky mountains is formed of granites of various colors, sometimes whitish with spots of black, sometimes gray or red ; above are stratifications of gneiss, hornblende, quartz and talcose slate, *similar to those which in Mexico enclose veins of gold*, micaceous schist, and talcose schist."

And yet, with all this explicit description, which gave rise to the recorded suggestion that this geological formation was the same as that which in Mexico contained veins of gold, it never occurred to any one of the statesmen or explorers who interested themselves in the acquisition of California that mines of the precious metals existed within her limits.*

OUR GRATITUDE TO THE GIVER OF THIS GIFT.

We have thus shown that our position in California is not an accidental one, but was the result of a long train of causes in which human agencies were actively at work. We should do injustice to ourselves, on this occasion, if we did not give utterance to higher sentiments than those of admiration for the patriotism of our fathers and the skill of our statesmen. We do not entertain those notions of modern atheism, thinly disguised under the epithet of pantheism, which limit the operative creation of God to the diffusion of a thin, gaseous substance throughout infinite space, upon which he set the impress of his law and then went to sleep, leaving the existing universe to be evolved from a succession of vortices. We do not believe that the whole animal and vegetable creations have been evolved from bubbles of albumen, nor even that pantheistical philosophers are only fully developed baboons, however probable this latter might seem. This theory was first popularly presented to the world in a most shallow and unscientific work called *The Vestiges of Creation*, whose author never dared to expose himself to general ridicule by revealing his name, because, just after the publication of his book, Lord Rosse turned his tremendous telescope upon the gaseous pantheistic nebulae, and instantly resolved them into fixed, starry points. We believe as geology teaches us, that God has often, and at remotely successive periods, interposed in the formation of the physical world, fitting it for the creation and habitation of man. We believe that He still acts in history, preparing great events, rewarding nations and men for goodness, and punishing them for crime. We believe that His adoration is not superstitious, nor prayer an unphilosophical act. "If the Lord had not been on our side—yea, if the Lord had not been on our side," we should not now possess this beautiful and glorious California, nor hope to transmit it as an inheritance to our descendants. To Him, therefore, we pour out our collected tribute of gratitude, and invoke His protection for ourselves and our children.

OUR DUTY TO THE FUTURE.

Standing, as we do, between the mighty past and the mysterious future, recognizing our gratitude to our fathers and our duty to our children, let us this day make a public confession and a solemn covenant. Let us con-

* In closing the historical narrative, it may be assumed as a fact that the inevitable rupture between Mexico and the United States was hastened by the governments of both countries with the expectation that the existence of war would defeat the plans of the monarchical party in Mexico. It is well known that the friends of Santa Anna, who was then in exile, applied to the American government to pass him through its blockade of Vera Cruz on his proposed return to Mexico, upon the frank representation that although he was the ablest general the Mexicans could have, and would undoubtedly command their armies during the war, yet his presence and influence in the country would prevent the establishment of a foreign monarchy there; and that the President of the United States, appreciating these considerations, permitted Santa Anna to land at Vera Cruz perfectly free to pursue his own course of action. There are gentlemen of the highest respectability residing in California who came here upon the personal assurance of President Polk, in 1846, that the war should not be concluded until Upper California was secured by treaty to the United States.

fess that those of us who have come into this country since the discovery of gold in California was announced to the world, came here rather with the spirit of adventure than with the intention of remaining here as permanent residents; that we came here to gather our share of the mineral treasures of the land, and then to return to the homes of our youth, there to spend the remainder of our lives; that, at first, we took no thought to found here the institutions of a higher civilization, nor even to cultivate social relations; and that, in this solitary isolation to which we condemned ourselves for the sake of gain, it was true, in a certain sense, of us, as individuals, that "our hands were against every one, and every one's hand against us." Let us confess that this Ishmaelitish tradition has still a certain influence upon us, and that we do not devote ourselves as fully as we ought to the preparation for the great future of California; and let us resolve that this day shall form a new era in our organized efforts. The faculties of man are threefold, intellectual, moral, and æsthetic; he has reasoning powers which can be cultivated; a moral and religious sense which can be elevated; and a perception of the beautiful in nature and art which can be developed into a source of happiness and refinement. As of men, so of nations, for nations are but aggregates of men. The man who is wanting in cultivation of any of these faculties is but an imperfect man; a nation which is thus deficient can never act a perfect part in the history of the world. The Greeks and Romans were powerful peoples, highly developed in intellect and æsthetics, but in religion and morals they possessed only the gross and sensual superstitions of paganism. The Puritans of New England were highly cultivated intellectually and morally, but not æsthetically; they were a strong, stern, and unsocial race. The politicians of the French revolution were men of powerful intellects, and of high culture in literature and art, but they were wanting in religious sentiment, and disbelievers in the ever-present working of an intelligent and personal Deity; so that even Robespierre, contemplating the threatened dissolution of his political system, cried out in his agony: "If there is no God, then we must create one!" Deficiency in æsthetic culture is commonly the want of new countries. The want of culture has been ascribed to us in California; by this is meant the want of intimate and refined social culture, of the perception of the beautiful in nature and in art—of that beautiful in nature, and that ideal of human perfection, which the painter strives to perpetuate on his canvas, the statuary to embody in marble, the poet to crystallize in his verse, and the musician to bring up from the profoundest depths of the human soul. The charge brought against us is in a large measure true, as it is always true of new populations; but we have advanced so rapidly to a high degree of prosperity that it ought to be true no longer, and we ought ourselves to remove this great reproach. Let us resolve, then, that we will do all in our power to develop æsthetic culture in California; that we will not only devote our aid to the foundation of churches, colleges, schools, and the kindred institutions of morals, science, and humanity, but also to the cultivation of arts, of the perception of the beautiful, to the advancement of painting and statuary. So shall we do our duty to the future; so shall come after us generations of Californians against whom no such reproach can be brought—a perfect race, equally developed in their threefold faculties, by intellectual, moral, and æsthetic culture.

OUR CELEBRATION, TEN YEARS HENCE, OF THE HUNDREDTH BIRTHDAY OF
 OUR CITY.

San Francisco was founded by a colony of soldiers and settlers who came up for that purpose from Monterey, overland and by sea, in 1776, and immediately set about constructing a chapel at the presidio, after which the following proceeding took place, as recorded by Father Palou, one of the missionary priests who belonged to the expedition:

"We took formal possession of the presidio on the seventeenth day of September, the anniversary of the impression of the wounds of our Father San Francisco the patron of the presidio and mission. I said the first mass, and after blessing the site, (*despues del bendito*,) the elevation and adoration of the holy cross, and the conclusion of the service with the *Te Deum*, the officers took formal possession in the name of our sovereign, with many discharges of cannon, both on sea and land, and the musketry of the soldiers."

The seventeenth of September, A. D. 1776, must therefore be considered the date of the foundation of San Francisco.

Ten years from now San Francisco will have completed the hundredth year of her existence. In ten years most of us, under the ordinary providence of God, will be still living. Let us then, on the hundredth birthday of our beloved city, go up and celebrate it on the plain of the presidio, where she was born. Let us at that time renew the solemn exercises by which the soil was consecrated to civilization: the blessing of holy mother church will not hurt the most zealous Protestant among us. Let us rear mast-high the old flag of Spain, with full military honors, to be replaced with equal honor by that of Mexico, which in its turn shall give place, with "great discharge of musketry and of cannon," to our own national emblem of unity and strength!

CONCLUSION.

It is the singularly good fortune of the members of our society that they have an assured position in the history of California, and one which can never be taken away from them. Whatever the future may have in store for us as individuals, the Corporate Society of California Pioneers has had an existence whose records must always remain in the literature and history of California. Our banner is here, on which our names are inscribed, and that banner will always float at the head of the "innumerable caravan" of the countless generations who are to succeed us—of that column which, like the Macedonian phalanx, widening as it deepens, shall draw its vast recruits as well from the tropical regions of the equator as from the confines of the frozen ocean. Behold the thin mist curling up from the ripple where the sunbeam kisses the western sea! It mounts to Heaven, and on its slight curtain Aurora paints the glories of the rising sun; condenses itself into the fleecy whiteness which decorates the sky of June; piles up the mighty thunder-cloud, with blackened base and Alpine peaks of dazzling brightness; and, at the signal of the far-flashing red artillery" of Heaven, and with reverberating crash, dissolves itself in gentle rain; descends with refreshing coolness on the thirsty land, rushes in torrents of sheety foam adown the mountain side; swells the vast river to its grassy brink, and then returns its tributary volume to the mother ocean. So countless as the innumerable drops of rain shall be the people that come after us. So shall they rise up from the mists of the future, filling Heaven and earth and sea with the beauty, greatness, and goodness of their acts, and then return, like us, to the great source from which they came. And among them, what multitudes of unborn painters, sculptors, poets, merchant-princes, generals and statesmen! Unknown they are to us, but sure to be—most of them still sleeping in the vast caverns where repose the unborn generations of mankind. But from the depths of the mists which conceal them, we already hear the reverberations of their heavy tread. The parting haze already reveals the outline of the giant forms of their leaders, but, alas, their faces are veiled! These are the men for whose coming we are to prepare this California of ours; these are the men who are to erect on the Pacific coast the imperial throne of the great American empire!



EXTRA COMPENSATION TO CLERKS IN TREASURY DEPARTMENT.

LETTER

FROM THE

SECRETARY OF THE TREASURY,

IN ANSWER

To a resolution of December 10, relative to the disbursement of the funds appropriated as extra compensation to clerks in that department.

JANUARY 10, 1867.—Referred to the Committee of Ways and Means and ordered to be printed.

TREASURY DEPARTMENT, *January 9, 1867.*

SIR: I have the honor to transmit herewith a statement in answer to resolution of the House of Representatives of December 10, 1866, introduced by Hon. Mr. Hill, asking for information concerning the disbursement of the funds of two hundred and fifty thousand dollars and one hundred and sixty thousand dollars, appropriated respectively by acts of Congress of March 2, 1865, and July 23, 1866, "for compensation of temporary clerks in the Treasury Department, and for additional compensation to officers and clerks in same department."

The payments of additional compensation have been made quarterly, and the statement shows the amount expended up to date of the resolution. It is, however, but proper to state that another quarterly payment was made on the first of the current year. With the exception of the amounts awarded to the heads of bureaus, the disbursement of the fund of one hundred and sixty thousand dollars has been made in the same manner as the fund appropriated for similar purposes by act of March 2, 1865—the disbursement of which was fully explained in my annual report on the finances for that year.

I am, very respectfully,

H. McCULLOCH,
Secretary of the Treasury.

Hon. SCHUYLER COLFAX,
Speaker of the House of Representatives.

Resolution of December 10, 1866.

"That the Secretary of the Treasury be requested to inform this House what portion of the sum of two hundred and fifty thousand dollars granted by act of March 2, 1865, and of one hundred and sixty thousand dollars appropriated by act of July 23, 1866, has been expended, and how expended, giving the name of the recipient of any portion of such fund, the amount received, and date of payment thereof, and the position of such recipient in said department at the time of such payment."

List of the temporary clerks in the Treasury Department who have been paid out of the two hundred and fifty thousand dollars appropriated by act of March 2, 1865, and the one hundred and sixty thousand dollars appropriated by act of July 23, 1866, "for the payment of temporary clerks in the Treasury Department, and additional compensation to clerks in same department," up to and including November 30, 1866.

No.	Name.	Amount.	No.	Name.	Amount.
1	Wm. M. Clark	\$177 39	57	J. H. Hays	\$476 08
2	A. Rodrique	359 99	58	W. Sommers	2,045 08
3	J. Whitehall	369 62	59	W. Carter	1,428 26
4	H. S. Hall	480 49	60	Benjamin Carr	1,496 73
5	John Cook	474 12	61	H. H. Hitchcock	381 52
6	H. Forster	533 88	62	George L. Clark	378 26
7	M. F. Wade	1,161 67	63	C. B. Parkman	375 00
8	A. A. Dodd	1,274 18	64	S. J. Gass	371 73
9	S. Thatcher	560 00	65	D. W. Brown	839 54
10	S. Dowde	1,274 18	66	G. P. Ramsdell	565 35
11	J. A. Paine	1,274 18	67	E. A. Paul	1,415 21
12	J. M. Adams	1,274 18	68	H. C. Niles	1,570 48
13	M. Middleton	1,274 18	69	William Fessenden	1,943 37
14	M. Bennett	1,274 18	70	C. F. Conant	1,305 43
15	A. Trewitt	1,274 18	71	N. E. Stoops	579 69
16	J. Haddock	1,024 72	72	H. S. Fuller	577 45
17	C. Smead	1,214 18	73	R. J. Middleton	257 60
18	K. Quinn	1,108 02	74	W. S. Walker	1,030 38
19	A. Kennon	1,104 07	75	L. R. Brown	665 21
20	M. Grendle	1,094 18	76	H. J. Cuthbert	619 56
21	G. E. Darrance	346 79	77	E. D. Webb	396 81
22	A. Jamison	186 76	78	J. W. Burnham	1,372 82
23	C. H. Evans	1,142 36	79	Harriet Tinkham	17 61
24	J. W. Porter	1,294 82	80	C. Eaton Creecy	1,501 63
25	L. D. Plummer	1,260 82	81	J. C. McLaughlan	395 58
26	H. C. Whiting	1,452 72	82	L. Brand	1,544 71
27	J. W. Hasbrouk	1,200 00	83	E. G. Smith	1,226 07
28	H. Monroe	1,998 91	84	J. R. Fairlamb	209 35
29	W. A. Dumphy	2,117 80	85	H. Cushing	6 52
30	W. D. Dana	1,500 00	86	C. H. Dickson	883 70
31	H. C. Dailey	164 65	87	A. J. Garrett	900 00
32	L. F. Thomas	1,305 85	88	J. H. Harleston	227 24
33	A. Zimanoski	970 09	89	J. W. Test	200 58
34	C. A. Morris	1,051 64	90	A. F. Randall	1,800 00
35	H. Griffing	1,201 65	91	J. F. Wildman	684 78
36	W. C. Harte	1,381 21	92	A. Thomas	1,775 55
37	R. M. Bigelow	420 00	93	T. Murphy	1,183 69
38	A. C. Varden	360 00	94	W. R. Bartlett	1,183 69
39	E. Jane Gay	1,194 18	95	W. P. Marsh	566 67
40	C. Melville	1,150 18	96	C. D. Kasson	1,148 39
41	C. K. Smead	60 00	97	J. G. McGreggor	1,311 88
42	J. West	331 52	98	D. H. Morse	414 44
43	W. W. Burnett	415 76	99	W. Brottor	932 24
44	John S. Bentzler	597 65	100	George B. McCarter	837 70
45	C. E. Miller	361 41	101	Garrett Luff	1,203 00
46	R. E. Thompson	1,081 24	102	S. A. Johnson	807 34
47	C. Smith	1,119 13	103	C. Limeburner	624 18
48	R. E. Stickney	16 67	104	A. J. Whelan	853 40
49	James Meldrum	534 78	105	Isaac Estill	909 01
50	J. F. Mullooney	551 08	106	G. R. Edwards	1,060 83
51	W. H. Sloan	459 79	107	A. McMillan	306 59
52	L. C. Abbott	101 09	108	W. F. Scott	381 29
53	W. W. Miller	1,246 77	109	O. Weber	792 29
54	T. D. Anderson	316 29	110	S. C. Atkinson	650 55
55	J. C. R. Clarke	1,542 38	111	J. Tryeciah	700 01
56	H. L. Kimball	1,274 18	112	H. V. Norton	407 70

List of temporary clerks in the Treasury Department, &c.—Continued.

No.	Name.	Amount.	No.	Name.	Amount.
113	W. S. Hinline.....	\$548 36	120	William F. Williams....	\$60 00
114	D. F. Stiles	587 90	121	A. S. Clements	34 78
115	M. Brown.....	541 76	122	Russell Brocher.....	62 62
116	F. Brannigan.....	71 74	123	A. Cromwell.....	65 93
117	C. A. McEwen	192 39	124	M. F. Hamilton	60 00
118	S. C. Fenwick.....	149 18	125	R. M. Harte.....	60 00
119	David Hines.....	182 59			
	Total.....	-----		-----	100,648 78

List of clerks in the Treasury Department of the first and second classes, and persons employed in said department appointed by the Secretary at an annual salary amounting to less than twelve hundred dollars, who have served under such appointment for one year previous to July 1, 1866, and have received one hundred dollars additional compensation, as authorized by act approved July 23, 1866.

(These sums were paid in the months of July, August, and September, 1866.)

No.	Name.	Class.	Am't.	No.	Name.	Class.	Am't.
1	John Tidball.....	Laborer	\$100	59	J. H. Reiss.....	Second..	\$100
2	James McKeen.....	First...	100	60	N. A. West	do.....	100
3	J. L. Morse	Counter	100	61	S. B. B. Tilley.....	do.....	100
4	W. C. Harte	\$1,000..	100	62	Geo. Shufflebotham..	do.....	100
5	D. D. Cone	First...	100	63	W. C. Murdock	First...	100
6	Ashbell Steele.....	Second..	100	64	G. T. Noyes	Second..	100
7	A. W. Scharit	do.....	100	65	W. H. H. Bates	do.....	100
8	Henry Fries	Watch'n	100	66	Richard Stoops.....	do.....	100
9	Henry Piper	Laborer	100	67	W. H. Royer.....	do.....	100
10	M. V. McQuester	Counter	100	68	Julius Golay	First...	100
11	L. H. Cole	First...	100	69	J. E. Forster	do.....	100
12	A. E. Chamberlin.....	Second..	100	70	J. L. Rowland	do.....	100
13	Nicholas Warner	Laborer	100	71	Wm. Slade.....	Mess'gr	100
14	James T. Adams	do.....	100	72	M. B. Moore	do.....	100
15	S. Johnson	do.....	100	73	M. L. Heustis.....	do.....	100
16	Thomas Crux	Watch'n	100	74	M. C. Webb	do.....	100
17	F. Kauffman	do.....	100	75	A. E. Prescott	do.....	100
18	J. R. Adams	Laborer	100	76	G. J. Cooper	do.....	100
19	James Dorsey.....	do.....	100	77	S. Kolb	do.....	100
20	W. W. Stephens.....	do.....	100	78	A. E. Hitselburger ..	do.....	100
21	Moses Furlong.....	do.....	100	79	R. F. Keach	do.....	100
22	James Liston	do.....	100	80	J. L. Thomas	do.....	100
23	N. J. Higgins	do.....	100	81	Wm. Wheeler.....	Laborer	100
24	M. Byern	do.....	100	82	Wm. H. Clark.....	First...	100
25	Daniel Humphreys ..	do.....	100	83	C. L. Washburne	Second..	100
26	E. Demeester	do.....	100	84	W. J. Pratt	Laborer	100
27	F. Courtney	do.....	100	85	John J. Suman	First...	100
28	Richard Morris.....	do.....	100	86	Thomas A. Gratorex ..	Mess'gr	100
29	Horace Munroe.....	First...	100	87	George H. Jackson ..	do.....	100
30	B. Carr	do.....	100	88	John S. Woodworth ..	Second..	100
31	C. Smith	Mess'gr	100	89	E. G. Handy.....	Watch'n	100
32	R. H. Andrews	First...	100	90	B. F. Surley	do.....	100
33	A. Y. Clagett.....	Second..	100	91	George H. Heron	do.....	100
34	H. Kolusowski	First...	100	92	Jeremiah Carroll	Laborer	100
35	Wm. H. Roberts.....	Second..	100	93	J. H. Goldsmith.....	Watch'n	100
36	G. E. Leefe	do.....	100	94	James Reynolds.....	do.....	100
37	T. B. Sanchos	do.....	100	95	D. C. Heiges.....	do.....	100
38	W. F. Harvey	do.....	100	96	John McGuire	do.....	100
39	Robert A. Edwards ..	First...	100	97	George A. Wooley.....	do.....	100
40	J. B. Chapman	do.....	100	98	John Connelly	do.....	100
41	Samuel Wills	do.....	100	99	Charles A. Seugstack ..	do.....	100
42	C. Thaw	do.....	100	100	Hezekiah Sipe	do.....	100
43	James West	do.....	100	101	Wm. C. Goddard.....	do.....	100
44	J. L. Bentzler	do.....	100	102	John E. Scheel.....	do.....	100
45	E. A. Watson	Mess'gr	100	103	Jacob Wolfsteiner	do.....	100
46	H. R. Swan	Laborer	100	104	John Myers	do.....	100
47	N. K. Burkett	do.....	100	105	Michael Long.....	do.....	100
48	W. Doyle	do.....	100	106	Michael Garvan	do.....	100
49	W. W. Burnett.....	First...	100	107	George B. Burgess.....	do.....	100
50	Thomas J. Fallon.....	Laborer	100	108	Wm. F. Williams	do.....	100
51	A. P. Reeves	do.....	100	109	Simon Stern	do.....	100
52	John D. Hutton.....	do.....	100	110	C. Donevan	Laborer	100
53	R. E. Thompson.....	First...	100	111	G. Chaves	do.....	100
54	W. G. Steinmetz.....	do.....	100	112	Wm. Shelley.....	do.....	100
55	J. M. Coburn	Second..	100	113	Richard Donovan.....	do.....	100
56	George W. Maher.....	do.....	100	114	John Martin	do.....	100
57	George W. Williams ..	do.....	100	115	John Bell	do.....	100
58	C. F. Brainard	do.....	100	116	Chas. Shambaugh	Watch'n	100

List of clerks in the Treasury Department, &c.—Continued.

No.	Name.	Class.	Am't.	No.	Name.	Class.	Am't.
117	Peter Flynn.....	Laborer	\$100	181	George N. Roberts ...	Second.	\$100
118	C. Chaves.....	do.....	100	182	R. B. Hughes.....	do.....	100
119	Martin Kelley.....	ds.....	100	183	C. W. Holcomb.....	do.....	100
120	Charles F. McCarthy.....	do.....	100	184	Abram Elkin, jr.....	do.....	100
121	Nathan Webster.....	Watch'n	100	185	W. A. Moorhead.....	do.....	100
122	Louis Dupau.....	do.....	100	186	John T. DeFord.....	do.....	100
123	Edward Purcell.....	do.....	100	187	M. S. McCullough.....	do.....	100
124	Charles W. Moxley ..	Laborer	100	188	Isaac Silsby.....	do.....	100
125	James Hayes.....	do.....	100	189	David Davis.....	do.....	100
126	Bruce Small.....	Second.	100	190	Richard Ricketts.....	do.....	100
127	G. Snowden.....	Mess'gr	100	191	J. Irving Burns.....	do.....	100
128	C. Syphax.....	Laborer	100	192	W. S. Strawn.....	do.....	100
129	John R. Garrison.....	Second.	100	193	W. C. Tyler.....	do.....	100
130	Geo. Neilson.....	do.....	100	194	Thomas P. Keene.....	do.....	100
131	C. P. Morrill.....	do.....	100	195	Alonzo Bell.....	do.....	100
132	Henry B. Bennett.....	do.....	100	196	H. T. Hirst.....	do.....	100
133	C. N. Wilson.....	do.....	100	197	Wm. Cromwell.....	do.....	100
134	Thomas Johnson.....	First...	100	198	George C. Ballard.....	do.....	100
135	D. R. Lockwood.....	do.....	100	199	M. T. Wallace.....	do.....	100
136	Louis Brand.....	do.....	100	200	W. E. Kennaugh.....	do.....	100
137	E. Ourand.....	Mess'gr	100	201	J. W. McGill.....	do.....	100
138	Thomas Barrett.....	A. mess.	100	202	K. Weiss.....	do.....	100
139	John McMahon.....	Laborer	100	203	J. D. Smith.....	do.....	100
140	John N. Dickson.....	Second.	100	204	A. H. Wright.....	do.....	100
141	J. T. Adams.....	do.....	100	205	W. Williamson.....	do.....	100
142	S. C. Buckingham.....	do.....	100	206	C. Parkinson.....	do.....	100
143	Thos. H. Trott.....	do.....	100	207	J. W. Meeks, jr.....	do.....	100
144	Solon E. Peck.....	do.....	100	208	Ira C. Chace.....	do.....	100
145	Henry L. Thomas.....	do.....	100	209	F. S. Gaither.....	do.....	100
146	A. R. Leib.....	do.....	100	210	Jos. Russell, jr.....	do.....	100
147	E. N. Lewis.....	do.....	100	211	J. S. Sharpe.....	do.....	100
148	M. B. Goodwin.....	do.....	100	212	M. V. Hall.....	do.....	100
149	H. S. Marvin.....	do.....	100	213	Lee Loveridge.....	do.....	100
150	B. Marriott.....	do.....	100	214	E. Hodges.....	do.....	100
151	Wm. P. Freeman.....	do.....	100	215	J. O. McClellan.....	do.....	100
152	J. D. Bartlett.....	do.....	100	216	L. D. Isham.....	do.....	100
153	H. C. Sweat.....	do.....	100	217	S. H. Reybold.....	do.....	100
154	O. D. Thatcher.....	do.....	100	218	John M. Hinkle.....	do.....	100
155	H. J. Hendershott.....	do.....	100	219	W. E. Kelsey.....	do.....	100
156	Wm. Gray.....	do.....	100	220	E. E. Ashley.....	do.....	100
157	J. M. Gardner.....	First...	100	221	H. R. Grannis.....	do.....	100
158	D. W. C. Brodhead.....	do.....	100	222	Burns Harlan.....	do.....	100
159	W. C. Flenner.....	do.....	100	223	Orrin Wilcox.....	do.....	100
160	B. R. Tracy.....	do.....	100	224	C. B. Smith.....	do.....	100
161	H. S. Cummings.....	do.....	100	225	J. C. Lemmon.....	do.....	100
162	J. D. Turrell.....	do.....	100	226	Charles Mueller.....	do.....	100
163	N. Lemon.....	do.....	100	227	Benj. S. Pike.....	do.....	100
164	Thomas Raftery.....	do.....	100	228	Charles C. Ewer.....	do.....	100
165	Edgar Stevens.....	do.....	100	229	E. J. Booraem.....	do.....	100
166	L. F. Thomas.....	do.....	100	230	S. S. Burnham.....	do.....	100
167	Wm Chambers.....	Mess'gr	100	231	David Hine.....	do.....	100
168	John McCormick.....	A. mess.	100	232	H. A. Merrill.....	do.....	100
169	Jacob Lyon.....	Laborer	100	233	W. H. Walker.....	do.....	100
170	J. Q. Kern.....	First...	100	234	Benj. Eglin.....	do.....	100
171	George W. Cushing ..	Second.	100	235	James F. Parker.....	do.....	100
172	S. G. Arnold.....	do.....	100	236	F. L. Sarmiento.....	do.....	100
173	S. D. Charles.....	do.....	100	237	Charles Lowell.....	do.....	100
174	B. Newton Brown.....	do.....	100	238	D. F. Merrill.....	do.....	100
175	John A. Flynn.....	do.....	100	239	Henry Moor.....	do.....	100
176	W. Houston.....	do.....	100	240	R. H. Ingersoll.....	do.....	100
177	McPherson Barnitz ..	do.....	100	241	H. L. Piper.....	do.....	100
178	A. H. Brown.....	do.....	100	242	E. L. Rice.....	do.....	100
179	F. H. Rawson.....	do.....	100	243	C. H. Patterson.....	do.....	100
180	W. A. Blake.....	do.....	100	244	T. O. Ebough.....	do.....	100

List of clerks in the Treasury Department, &c.—Continued.

No.	Name.	Class.	Am't.	No.	Name.	Class.	Am't.
245	S. W. Burr	Second.	\$100	308	W. F. Townsend.....	First...	\$100
246	Thos. Rathbone.....	do....	100	309	John McKinley.....	do....	100
247	J. T. Sweetman.....	do....	100	310	F. A. Burr.....	do....	100
248	P. A. Flynn.....	do....	100	311	P. W. Pritchard.....	do....	100
249	F. J. Porter.....	do....	100	312	J. B. Atkinson.....	do....	100
250	Granville Malcolm....	do....	100	313	Fayette Greene.....	do....	100
251	Clifton Lowe.....	do....	100	314	G. H. Henderson.....	do....	100
252	T. C. Taylor.....	do....	100	315	W. S. Frost.....	do....	100
253	B. M. Barker.....	do....	100	316	R. Worthington.....	do....	100
254	H. A. Higgins.....	do....	100	317	M. C. Tucker.....	do....	100
255	F. A. Springer.....	do....	100	318	Samuel R. Hersey.....	do....	100
256	L. M. Saunders.....	do....	100	319	C. F. Herring.....	do....	100
257	John O'Neill.....	do....	100	320	Samuel Staley.....	do....	100
258	J. H. Woody.....	do....	100	321	S. G. Hinckley.....	do....	100
259	John Deering, jr.....	do....	100	322	M. M. Kaighn.....	do....	100
260	S. E. Faunce.....	do....	100	323	Frederick King.....	do....	100
261	G. A. Bullard.....	do....	100	324	W. W. Hobbs.....	do....	100
262	Thomas Little.....	do....	100	325	J. W. Luzenbul.....	do....	100
263	J. H. Claffin.....	do....	100	326	G. G. Cornish.....	do....	100
264	R. B. Taylor.....	do....	100	327	T. T. Stewart.....	do....	100
265	J. C. Montgomery.....	do....	100	328	J. E. S. Cony.....	do....	100
266	Charles Lyman.....	do....	100	329	J. R. Raymond.....	do....	100
267	A. Niemeyer.....	do....	100	330	E. L. Stillson.....	do....	100
268	N. G. Powell.....	do....	100	331	A. S. Wight.....	do....	100
269	R. H. Jackson.....	do....	100	332	J. W. Carter.....	do....	100
270	C. J. Stoddard.....	do....	100	333	A. H. F. Hain.....	do....	100
271	W. C. Benton.....	do....	100	334	Frederick Sheridan...	Mess'r.	100
272	B. Breithaupt.....	do....	100	335	W. C. Trumbull.....	do....	100
273	F. A. Spencer.....	First...	100	336	John Brent.....	Laborer	100
274	Thomas Haggerty.....	do....	100	337	John H. Nicholls.....	do....	100
275	A. Burlingame.....	do....	100	338	George Hickman.....	do....	100
276	G. H. Paulson.....	do....	100	339	James H. Paynter.....	do....	100
277	Thomas Pugh.....	do....	100	340	Abraham Clark.....	do....	100
278	T. H. Speir.....	do....	100	341	John Hathaway.....	do....	100
279	J. M. Cushing.....	do....	100	342	Daniel Taggart.....	First...	100
280	A. Cloughly.....	do....	100	343	James M. Leeds.....	do....	100
281	George W. Flynn.....	do....	100	344	G. M. Howard.....	do....	100
282	T. B. Creighton.....	do....	100	345	B. F. M. Hurley.....	Second.	100
283	T. J. Staley.....	do....	100	346	E. E. Brown.....	First...	100
284	Byron Sykes.....	do....	100	347	Edward Taylor.....	Second.	100
285	S. H. Gratiot.....	do....	100	348	George W. Rose.....	First...	100
286	F. D. Connelly.....	do....	100	349	F. S. McKenna.....	do....	100
287	D. M. Smith.....	do....	100	350	I. M. Gurley.....	do....	100
288	Josiah Humphery.....	do....	100	351	J. D. Bradley.....	Second.	100
289	George G. Colby.....	do....	100	352	John H. Nicolay.....	do....	100
290	D. V. Chambers.....	do....	100	353	W. T. Brooke.....	do....	100
291	Thomas Shepherd.....	do....	100	354	L. A. McCord.....	do....	100
292	W. B. Dyer.....	do....	100	355	H. C. Dailey.....	do....	100
293	C. E. Beale.....	do....	100	356	F. A. Lueber.....	do....	100
294	James Larry.....	do....	100	357	D. Pool.....	do....	100
295	Thomas E. Wharff....	do....	100	358	G. Goble.....	do....	100
296	S. R. Ward.....	do....	100	359	H. R. Leaver.....	do....	100
297	F. Mearis.....	do....	100	360	George W. Fales.....	First...	100
298	S. J. Wailes.....	do....	100	361	John W. Porter.....	do....	100
299	W. W. Gould.....	do....	100	362	H. C. Whiting.....	do....	100
300	C. H. Holden.....	do....	100	363	W. D. Dana.....	do....	100
301	George A. Lathrop....	do....	100	364	F. Pfaff.....	do....	100
302	T. P. Graham.....	do....	100	365	James W. Garner.....	Mess'r.	100
303	T. E. Baden.....	do....	100	366	Arthur Chew.....	Ast. Mes.	100
304	John Dickinson.....	do....	100	367	C. C. Weston.....	Second.	100
305	T. C. Molloy.....	do....	100	368	George A. Mercer.....	do....	100
306	E. M. Crittenden.....	do....	100	369	H. J. Morgan.....	do....	100
307	R. G. Cunningham....	do....	100	370	Charles L. Jones.....	do....	100

List of clerks in the Treasury Department, &c.—Continued.

No.	Name.	Class.	Am't.	No.	Name.	Class.	Am't.
371	H. J. Goodrich.....	First...	\$100	434	D. S. Curtiss.....	Second..	\$100
372	F. C. Harris	Mess'r..	100	435	E. R. Hutchinson....	do.....	100
373	Patrick Byrne.....	do.....	100	436	C. W. Eldridge.....	do.....	100
374	Daniel Robertson	First...	100	437	J. F. Toyce.....	do.....	100
375	James McGill	Mess'r..	100	438	J. N. Goodhue	do.....	100
376	Charles Forbes	do.....	100	439	T. E. Davis	do.....	100
377	J. Schmitberger.....	do.....	100	440	C. P. Freeland	do.....	100
378	Thomas H. Byrnes....	do.....	100	441	H. A. Farnum.....	do.....	100
379	Alexander Dubant	do.....	100	442	S. B. Hannum.....	do.....	100
380	James W. Bowie.....	do.....	100	443	J. W. Stokes	do.....	100
381	P. V. Mulvihill	do.....	100	444	C. H. Ingram	do.....	100
382	John Brown.....	do.....	100	445	J. H. Mott	do.....	100
383	H. E. Quinn.....	do.....	100	446	S. J. Koontz.....	do.....	100
384	Benjamin Lannum....	Laborer	100	447	C. F. Lewis.....	do.....	100
385	William Harrington..	Mess'r..	100	448	C. W. Geddis.....	do.....	100
386	J. E. Brown	do.....	100	449	G. F. Rollins.....	do.....	100
387	George Prender.....	Second..	100	450	L. E. Dudley.....	do.....	100
388	James G. Gibson	do.....	100	451	A. P. Fardon.....	do.....	100
389	C. Z. Eddy	do.....	100	452	J. L. W. Huntington..	do.....	100
390	William Behrens.....	First...	100	453	Warren Brown	do.....	100
391	M. Richardson.....	Second..	100	454	A. B. P. Palmer.....	do.....	100
392	James C. Poynton	First...	100	455	A. H. Sawyer	First...	100
393	Robert Courtney	Second..	100	456	E. W. Bassett.....	Second..	100
394	E. M. McLeod.....	do.....	100	457	G. H. Colbath.....	First...	100
395	M. C. Battey.....	do.....	100	458	J. L. Adams	do.....	100
396	Edwin French.....	First...	100	459	A. H. Chase.....	do.....	100
397	John Chahoon.....	do.....	100	460	A. F. Ely.....	Second..	100
398	E. E. Forsyth	do.....	100	461	S. H. Williams	Mess'r..	100
399	James H. Stevens.....	do.....	100	462	E. C. Arnold.....	do.....	100
400	W. H. Gibson.....	Second..	100	463	M. Morrice	do.....	100
401	W. T. Parker	do.....	100	464	W. H. Baker.....	Ast. Mes.	100
402	J. Hertford.....	do.....	100	465	U. Dailey.....	do.....	100
403	John Hull.....	do.....	100	466	C. Fisher.....	Laborer	100
404	George Schermerhorn	First...	100	467	W. H. Warren.....	do.....	100
405	John T. Barnes.....	Second..	100	468	F. R. Freeman.....	do.....	100
406	Abram Zoller.....	First...	100	469	T. Washington	do.....	100
407	Richard Hill.....	Laborer	100	470	Charles Harris.....	do.....	100
408	C. P. Wannall.....	Second..	100	471	A. McNeill.....	Second..	100
409	J. Ruppert.....	do.....	100	472	H. J. Crosson	do.....	100
410	H. Crockett.....	do.....	100	473	R. S. Jordan.....	do.....	100
411	W. O. Douglass.....	do.....	100	474	N. Quackenbush	do.....	100
412	G. W. Bradford	do.....	100	475	J. S. Graham	do.....	100
413	R. Lombard.....	do.....	100	476	A. Penfield	do.....	100
414	W. Blasland	do.....	100	477	J. E. Weems	do.....	100
415	A. S. Seely.....	do.....	100	478	O. Dufour.....	do.....	100
416	H. C. Pearson.....	do.....	100	479	J. W. F. Cunz	do.....	100
417	J. Nyman.....	Second..	100	480	J. E. Black.....	do.....	100
418	E. S. Jones	do.....	100	481	R. C. Stickney	do.....	100
419	D. K. Apple.....	First...	100	482	T. W. Acton.....	do.....	100
420	W. H. Hills.....	do.....	100	483	J. F. Allen.....	do.....	100
421	C. T. Nutz.....	do.....	100	484	E. Ordway	do.....	100
422	H. Murray	Mess'r..	100	485	M. Eastwood	do.....	100
423	W. Lewis.....	Ast. Mes.	100	486	J. H. Young.....	do.....	100
424	George Eager	do.....	100	487	J. C. Baxter	do.....	100
425	W. J. P. Clarke.....	\$1,000	100	488	G. W. Nutt	do.....	100
426	S. J. J. Millard.....	\$1,000	100	489	G. P. Williamson....	do.....	100
427	W. S. Bailey.....	Second..	100	490	J. B. Dunn.....	do.....	100
428	J. M. Darling	do.....	100	491	Richard Oulahan	do.....	100
429	W. D. Franklin	do.....	100	492	M. A. Tappan.....	do.....	100
430	J. M. Forbush.....	do.....	100	493	Victor Hannot.....	do.....	100
431	A. W. Gannett	do.....	100	494	G. P. Hopkins	do.....	100
432	W. T. Collins	do.....	100	495	Benjamin Nute, jr....	do.....	100
433	J. F. Johnson.....	do.....	100	496	W. H. Gaines.....	do.....	100

List of clerks in the Treasury Department, &c.—Continued.

No.	Name.	Class.	Am't.	No.	Name.	Class.	Am't.
497	A. A. Shissler.....	Second.	\$100	560	P. E. Jones.....	Second.	\$100
498	Hugh Tuohy.....	do.....	100	561	W. H. Whitney.....	do.....	100
599	T. S. Warren.....	do.....	100	562	A. Hine.....	Second.	100
500	G. H. Emerson.....	do.....	100	563	Theodore Trivett.....	First...	100
501	J. D. Gangewer.....	do.....	100	564	L. F. Ward.....	do.....	100
502	W. E. Ayers.....	do.....	100	565	P. Young.....	do.....	100
503	H. M. Robbins.....	do.....	100	566	J. B. Campbell.....	do.....	100
504	C. C. King.....	do.....	100	567	S. E. Gough.....	do.....	100
505	Allen Hersh.....	do.....	100	568	H. M. Bennett.....	do.....	100
506	J. R. Brown.....	do.....	100	569	J. S. Hatch.....	do.....	100
507	F. M. Byrod.....	do.....	100	570	A. Ingerson.....	do.....	100
508	J. W. Stockton.....	do.....	100	571	W. F. Crane.....	do.....	100
509	J. Van Offenbacher..	do.....	100	572	W. G. Dunwoody....	Second.	100
510	W. McLeod.....	do.....	100	573	Peter Bogart.....	do.....	100
511	H. H. Bates.....	do.....	100	574	Charles White.....	First...	100
512	C. H. Beach.....	do.....	100	575	D. Wagener.....	do.....	100
513	J. L. Henshaw.....	do.....	100	576	W. D. Crawford.....	do.....	100
514	W. H. Seward, jr....	do.....	100	577	E. W. Deeth.....	Second.	100
515	C. K. Gardner.....	do.....	100	578	W. H. H. Barclay....	do.....	100
516	W. H. Treadway.....	do.....	100	579	S. S. Stearns.....	do.....	100
517	E. B. Daskam.....	do.....	100	580	J. N. Whitney.....	do.....	100
518	J. C. Greene.....	do.....	100	581	J. H. Barker.....	First...	100
519	A. W. Rowell.....	do.....	100	582	E. H. Lamont.....	do.....	100
520	E. H. Davis.....	do.....	100	583	J. H. Benedict.....	do.....	100
521	D. H. Smith.....	do.....	100	584	B. F. Bingham.....	do.....	100
522	M. Lathrop.....	do.....	100	585	E. Brown.....	do.....	100
523	H. C. Nesbitt.....	do.....	100	586	W. J. Tilley.....	Second.	100
524	C. G. Johnson.....	do.....	100	587	H. V. V. Blanchard..	First...	100
525	W. J. Purrington....	do.....	100	588	F. R. Eastman.....	do.....	100
526	John E. Low.....	do.....	100	589	Wm. Dunham.....	First...	100
527	C. G. Morrill.....	do.....	100	590	W. A. Short.....	do.....	100
528	R. M. Jones.....	do.....	100	591	L. Prudhomme.....	Second.	100
529	D. B. Nicholls.....	do.....	100	592	F. E. Long.....	First...	100
530	L. Wilson.....	do.....	100	593	M. B. Robbins.....	Second.	100
531	N. B. Bartlett.....	do.....	100	594	L. Bursley.....	do.....	100
532	James McGay.....	do.....	100	595	J. E. Smith.....	do.....	100
533	James T. Hall.....	do.....	100	596	C. B. Blanchard.....	do.....	100
534	T. H. Pratt.....	do.....	100	597	B. P. Cutter.....	First...	100
535	H. C. Jennings.....	First...	100	598	F. S. Deland.....	Second.	100
536	R. S. Hughston.....	do.....	100	599	J. C. Eicholtz.....	First...	100
537	F. J. Craig.....	do.....	100	600	B. F. Gray.....	do.....	100
538	C. N. Franciscus.....	do.....	100	601	John Robb.....	do.....	100
539	H. Lincoln.....	Second.	100	602	M. Trimble.....	do.....	100
540	D. W. Batchelder.....	do.....	100	603	E. C. Webb.....	Second.	100
541	William Pope.....	First...	100	604	G. F. Robinson.....	First...	100
542	S. L. Loomis.....	Second.	100	605	R. R. Wallach.....	do.....	100
543	John Hurst.....	do.....	100	606	Charles D. Wheeler..	Second.	100
544	J. R. Creed.....	do.....	100	607	Thomas Foster.....	Mess'gr	100
545	T. H. Martin.....	do.....	100	608	P. Donnelly.....	A. mess.	100
546	J. Goodwin.....	First...	100	609	C. H. W. Stokely.....	do.....	100
547	S. J. Franks.....	do.....	100	610	L. Simpson.....	Laborer	100
548	S. G. Newton.....	Second.	100	611	John Walters.....	Mess'gr.	100
549	E. G. Wilcox.....	First...	100	612	Benj. McCoy.....	Laborer	100
550	W. H. Walton.....	do.....	100	613	G. F. Johnston.....	do.....	100
551	L. W. Kimball.....	Second.	100	614	E. McManus.....	do.....	100
552	E. Fobes.....	First...	100	615	James A. Polkoty....	do.....	100
553	George W. Knox.....	Second.	100	616	Milo Lewis.....	Second.	100
554	H. W. Dennison.....	do.....	100	617	H. R. Jones.....	do.....	100
555	W. H. Brown.....	do.....	100	618	Wm. Mertz.....	do.....	100
556	C. E. Blanchard.....	First...	100	619	O. H. Granger.....	do.....	100
557	J. N. Ehle.....	do.....	100	620	Charles Cook.....	do.....	100
558	H. D. Leonard.....	do.....	100	621	T. W. Patchin.....	do.....	100
559	W. G. Tomer.....	do.....	100	622	M. A. Watson.....	do.....	100

List of clerks in the Treasury Department, &c.—Continued.

No.	Name.	Class.	Am't.	No.	Name.	Class.	Am't.
623	A. H. Marlow	Second.	\$100	686	J. F. Maguire	Second.	\$100
624	W. E. Gray	do.	100	687	A. F. Marsh	do.	100
625	J. H. Demeritt	do.	100	688	C. E. Meyer	do.	100
626	J. B. Tarr	do.	100	689	M. C. Munson	do.	100
627	H. V. Cole	do.	100	690	George F. Needham	do.	100
628	O. Wychoff	do.	100	691	J. E. O'Brien	do.	100
629	Sam. Houston	First.	100	692	J. W. Oliver	do.	100
630	D. S. Holland	do.	100	693	J. Peck	do.	100
631	V. E. Bieloski	do.	100	694	Henry Richter	do.	100
632	A. J. Bartlett	do.	100	695	Wm. Ryan	do.	100
633	H. C. Sherman	do.	100	696	E. Story	do.	100
634	W. H. Frazier	do.	100	697	S. F. Sharretts	do.	100
635	Wm. Smith	do.	100	698	Samuel Stettinius	do.	100
636	D. Keener	do.	100	699	M. A. Turner	do.	100
637	C. B. Young	do.	100	700	E. C. Tallmadge	do.	100
638	James T. Leary	do.	100	701	Geo. H. Thomas	do.	100
639	J. A. Beckwith	do.	100	702	H. S. Toule	do.	100
640	L. Carpenter	do.	100	703	J. K. Upton	do.	100
641	B. E. Messer	do.	100	704	D. P. Waters	do.	100
642	W. M. White	do.	100	705	R. Widdecomb	do.	100
643	J. N. McIlvain	do.	100	706	W. W. Young	do.	100
644	George Anthony	do.	100	707	C. W. Kleeberg	do.	100
645	F. C. Rau	do.	100	708	Alden Miller	do.	100
646	A. Ware	do.	100	709	Geo. W. Bridgeman	First.	100
647	George M. Ritz	Mess'gr	100	710	J. H. Burritt	do.	100
648	A. A. Watts	A. mess.	100	711	D. A. Hall	do.	100
649	E. Quann	Laborer	100	712	W. J. Ketchum	Second.	100
650	O. McKnight	Second.	100	713	R. S. Widdecomb	do.	100
651	Amos Young	do.	100	714	Z. Ellis	do.	100
652	S. H. Galpin	do.	100	715	J. S. Moffatt	do.	100
652	E. R. Skinner	First.	100	116	N. B. Milliken	First.	100
654	E. D. Kinne	Second.	100	717	D. R. Smiley	Second.	100
655	E. R. Tyler	do.	100	718	J. H. Dixon	First.	100
656	J. F. Joseph	do.	100	719	F. M. Lalor	Second.	100
657	Wm. Woodburn	First.	100	720	C. H. Johnson	First.	100
658	Simeon Mead	do.	100	721	A. P. Lacey	do.	100
659	C. Brosnahan	Mess'gr	100	722	J. E. Sheppard	Second.	100
660	M. Fleming	Laborer	100	723	J. E. Mallette	First.	100
661	C. L. Alexander	Second.	100	724	Wm. M. King	do.	100
662	C. D. Appleton	do.	100	725	A. H. Nixon	Second.	100
663	J. W. Baden	do.	100	726	B. F. Morris	First.	100
664	James Ballock	do.	100	727	J. B. Patterson	do.	100
665	C. H. Bliss	do.	100	728	E. A. Kilbourne	do.	100
666	R. G. Blaine	do.	100	729	A. Wallace	do.	100
667	J. H. Brown	do.	100	730	D. W. Lathrop	do.	100
668	A. H. Bradley	do.	100	731	W. H. Goddard	Second.	100
669	J. A. S. Carpenter	do.	100	732	H. H. Northrup	do.	100
670	N. B. Clarke	do.	100	733	J. P. Perley	do.	100
671	J. W. Compton	do.	100	734	J. N. Taggart	First.	100
672	W. H. Davis	do.	100	735	W. W. Cox	Mess'gr	100
673	W. O. Denison	do.	100	736	F. P. Burke	Laborer	100
674	S. E. Dickinson	do.	100	737	R. White	do.	100
675	T. G. Forster	do.	100	738	K. Dyer	do.	100
676	Z. P. Gunion	do.	100	739	L. M. Graves	do.	100
677	W. H. Gunnison	do.	100	740	W. B. Neorr	First.	100
678	W. R. Hooper	do.	100	741	Arthur O'Leary	Laborer	100
679	C. Hendley	do.	100	742	P. W. Whitcomb	do.	100
680	W. B. Laub	do.	100	743	B. E. McGrew	do.	100
681	F. B. Lilley	do.	100	744	C. H. Twine	do.	100
682	J. L. Lake	do.	100	745	George W. Penfro	do.	100
683	W. C. Lipscomb, jr.	do.	100	746	Henry Douglass	do.	100
684	C. G. McLeran	do.	100	747	James Reed	do.	100
685	J. R. McGregor	do.	100	748	James Marix	First.	100

List of clerks in the Treasury Department, &c.—Continued.

No.	Name.	Class.	Am't.	No.	Name.	Class.	Am't.
749	Thomas Dutton.....	Mess'gr	\$100	812	Mary F. Bennett.....	Counter	\$100
750	J. Sanderson	Second.	100	813	A. E. C. Trewitt	do.....	100
751	J. W. Sargent	do.....	100	814	J. E. Haddock.....	do.....	100
752	H. Fowler	do.....	100	815	Clara K. Smead.....	do.....	100
753	D. D. T. Leech	do.....	100	816	Kate Quinn	do.....	100
754	A. Miller.....	do.....	100	817	A. H. Kennon	do.....	100
755	R. H. Burr.....	do.....	100	818	Lucretia Kleiber.....	do.....	100
756	G. W. Hines.....	Mess'gr	100	819	Jennie D. Reilly.....	do.....	100
757	J. A. Marshall	Lab. rer	100	820	F. H. Plummer	do.....	100
758	F. C. Cate	Second.	100	821	F. Richardson	do.....	100
759	John J. Edson	do.....	100	822	Emma Richmond.....	do.....	100
760	H. H. Smith	do.....	100	823	Harriet C. Heald.....	do.....	100
761	E. S. Peck.....	do.....	100	824	Mary F. Hamilton....	do.....	100
762	J. W. Adams.....	do.....	100	825	M. A. Lauck	do.....	100
763	J. H. A. Schureman ..	Mess'r	100	826	Leah Hatfield	do.....	100
764	O. N. Hubbard.....	As't do	100	827	Lydia L. Plummer....	do.....	100
765	M. C. Weaver.....	do.....	100	828	Miss J. M. Seavey	do.....	100
766	John H. Kaufman.....	do.....	100	829	Miss J. M. Hinds	do.....	100
767	Annie Donaldson.....	Counter	100	830	Miss H. Cowperwait..	do.....	100
768	Miss Anna W. Story....	do.....	100	831	Miss M. Purviance....	do.....	100
769	Miss M. W. Sullivan....	do.....	100	832	Mrs. J. M. Little	do.....	100
770	Mrs. Anna R. Story....	do.....	100	833	Miss E. B. Coale.....	do.....	100
771	Mrs. Mary G. Mahon....	do.....	100	834	Miss M. E. Rice.....	do.....	100
772	Mrs. H. C. Ingersoll....	do.....	100	835	Miss E. Taylor	do.....	100
773	Mrs. Mary G. Smith....	do.....	100	836	Mrs. A. E. F. Carre....	do.....	100
774	Mrs. E. C. Woodbridge ..	do.....	100	837	Mrs. B. Covode	do.....	100
775	Miss A. C. Ingersoll....	do.....	100	838	Miss V. D. Darrell....	do.....	100
776	Miss L. W. Knowlton....	do.....	100	839	Miss C. J. Babcock	do.....	100
777	Miss Ada F. Dickey....	do.....	100	840	Miss L. Varney.....	do.....	100
778	Miss P. D. Hart.....	do.....	100	841	Miss L. F. Plant	do.....	100
779	Miss Celia N. French....	do.....	100	842	Miss S. C. Beck	do.....	100
780	Miss Minta Watkins....	do.....	100	843	Miss M. H. Baird	do.....	100
781	Miss E. N. Longen.....	do.....	100	844	Miss E. S. West.....	do.....	100
782	Miss C. H. Webb	do.....	100	845	Miss L. H. Smith.....	do.....	100
783	Miss E. R. Hyde.....	do.....	100	846	Miss M. A. Willard....	do.....	100
784	Mrs. M. H. Sherwin....	do.....	100	847	Miss M. E. Chapman....	do.....	100
785	Miss M. S. Miller.....	do.....	100	848	Miss S. E. Edgecomb....	do.....	100
786	Miss C. Hinds.....	do.....	100	849	Miss S. R. Duval	do.....	100
787	Miss M. M. Stockton	do.....	100	850	Miss A. Carson	do.....	100
788	Miss E. C. Berthrong....	do.....	100	851	Miss M. Arnold	do.....	100
789	Mrs. L. A. Hodges.....	do.....	100	852	Miss M. M. Billings ..	do.....	100
790	Mrs. E. E. Poole	do.....	100	853	Miss M. E. Cole	do.....	100
791	Mrs. S. F. Fitzgerald....	do.....	100	854	Miss A. E. Adams	do.....	100
792	Miss M. M. Redwood....	do.....	100	855	Mrs. S. E. Draper	do.....	100
793	Miss E. N. Fowler.....	do.....	100	856	Miss C. Jekyll.....	do.....	100
794	Miss K. E. Anderson....	do.....	100	857	Mrs. N. Dean.....	do.....	100
795	Miss M. A. Blossom....	do.....	100	858	Miss E. Colcord	do.....	100
796	George Wood.....	Second	100	859	Mrs. R. E. Walker	do.....	100
797	M. A. Spencer	Counter	100	860	Mrs. G. B. Eusworth....	do.....	100
798	M. L. Simpson.....	do.....	100	861	Mrs. N. Webster	do.....	100
799	O. M. E. Y. Christian....	do.....	100	862	Miss M. J. Mazuzan....	do.....	100
800	Miss M. N. Hutchins....	do.....	100	863	Mrs. A. C. Harris	do.....	100
801	Lucy E. Gibson.....	do.....	100	864	Miss F. L. Halstead....	do.....	100
802	M. M. Field	do.....	100	865	Miss B. S. Tracy	do.....	100
803	M. Linton.....	do.....	100	866	Miss Annie York.....	do.....	100
804	Louise Mackall.....	do.....	100	867	Miss L. Stoner	do.....	100
805	Hellen A. Walker.....	do.....	100	868	Miss J. L. Wall	do.....	100
806	Mary F. Wade.....	do.....	100	869	Miss M. Smith	do.....	100
807	A. A. Dodd.....	do.....	100	870	Miss E. McKean	do.....	100
808	Sidney W. Dowde.....	do.....	100	871	Miss M. C. Steele	do.....	100
809	Julia A. Paine.....	do.....	100	872	Mrs. G. P. Clark	do.....	100
810	Julia M. Adams.....	do.....	100	873	Mrs. V. Handy	do.....	100
811	Mary P. Middleton....	do.....	100	874	Miss J. G. May	do.....	100

List of clerks in the Treasury Department, &c.—Continued.

No.	Name.	Class.	Am't.	No.	Name.	Class.	Am't.
875	Mrs. M. M. Watson ..	Counter.	\$100	938	Miss Mary Taylor....	Counter	\$100
876	Miss Kate Waters....	do....	100	939	Miss Ella Plimpton....	do....	100
877	Miss M. C. Stewart....	do....	100	940	Mrs. Mary A. Bassett ..	do....	100
878	Mrs. S. E. Rosenberg ..	do....	100	941	Mrs. M. Cavender	do....	100
879	Mrs. S. A. Reid	do....	100	942	Miss Kate Rumsey	do....	100
880	Miss A. J. Simpson....	do....	100	943	Mrs. E. Crittenden....	do....	100
881	Miss H. C. Keller	do....	100	944	Mrs. E. Burke.....	do....	100
882	Miss J. M. Pyfer	do....	100	945	Mrs. E. Bartlett	do....	100
883	Mrs. R. A. Pierce	do....	100	946	Mrs. E. A. Ringgold ..	do....	100
884	Mrs. N. Carter	do....	100	947	Mrs. E. V. Clarke	do....	100
885	Miss C. E. Noyes	do....	100	948	Mrs. Nellie Devendorf ..	do....	100
886	Miss E. Printz	do....	100	949	Miss E. M. Mason.....	do....	100
887	Miss H. Shields	do....	100	950	Mrs. Anne Toffe	do....	100
888	Miss S. A. Bradley	do....	100	951	Miss L. M. Baker	do....	100
889	Miss H. N. Henshaw....	do....	100	952	Sophie Holmes.....	do....	100
890	Mrs. A. E. Prindle	do....	100	953	Anna Dixon	do....	100
891	Miss Jennie Foster....	do....	100	954	Susan Bruce.....	do....	100
892	Miss M. White.....	do....	100	955	C. Maroney.....	do....	100
893	Miss R. I. Wilson	do....	100	956	M. F. McCaffrey	do....	100
894	Mrs. L. V. Jordan	do....	100	957	E. M. Everts.....	do....	100
895	Miss H. Farquhar	do....	100	958	A. M. Doolittle.....	do....	100
896	Miss F. F. Moore	do....	100	959	M. A. Tyrrell	do....	100
897	Mrs. M. J. Patterson....	do....	100	960	S. E. Duvall.....	do....	100
898	Miss E. J. Campbell....	do....	100	961	J. B. Duxbury	do....	100
899	Mrs. M. J. C. Clark....	do....	100	962	M. A. McColloch.....	do....	100
900	Miss E. A. Kinney	do....	100	963	N. A. Taunt.....	do....	100
901	Mrs. D. Griffith.....	do....	100	964	E. D. Murray	do....	100
902	Miss Augusta Cook	do....	100	965	E. J. Fletcher.....	do....	100
903	Miss Susan Dugger	do....	100	966	S. Dugan.....	do....	100
904	Miss F. S. Hoey	do....	100	967	A. A. Benjamin.....	do....	100
905	Miss C. J. Mills	do....	100	968	J. E. Hamblin	do....	100
906	Miss E. R. Graves.....	do....	100	969	H. M. White.....	do....	100
907	Miss H. P. McCormick ..	do....	100	970	C. F. B. Stevens.....	do....	100
908	Miss M. O. Hepburn....	do....	100	971	S. L. Russell.....	do....	100
909	Mrs. C. Ball	do....	100	972	L. C. Dawes.....	do....	100
910	Mrs. C. McKenna	do....	100	973	M. Minor.....	do....	100
911	Mrs. M. S. Gallagher....	do....	100	974	C. Ross.....	do....	100
912	Miss Lydia S. Hall....	do....	100	975	E. J. Frost.....	do....	100
913	Miss Mary K. Reily	do....	100	976	M. Barton.....	do....	100
914	Miss C. S. Sheads	do....	100	977	C. Devine	do....	100
915	Miss H. L. Gould	do....	100	978	E. C. Dickins.....	do....	100
916	Mrs. Julia A. Fernald ..	do....	100	979	M. M. Hart.....	do....	100
917	Miss Annie Kearney....	do....	100	980	A. E. Clingan.....	do....	100
918	Miss Mary E. Pierce....	do....	100	981	L. R. Crosby	do....	100
919	Miss K. M. Darling.....	do....	100	982	E. L. Ryan.....	do....	100
920	Miss Sarah J. Carson....	do....	100	983	S. O'Neile.....	do....	100
921	Mrs. Mary B. Paige	do....	100	984	M. J. Stevens.....	do....	100
922	Mrs. W. A. Frankler....	do....	100	985	M. De C. Williams	do....	100
923	Mrs. Abby H. Green....	do....	100	986	M. V. O'Flynn.....	do....	100
924	Mrs. H. A. McConnell ..	do....	100	987	S. W. Tyler.....	do....	100
925	Miss F. A. Finch	do....	100	988	J. Batterman	do....	100
926	Miss P. Musgrieff	do....	109	989	J. R. Peck.....	do....	100
927	Mrs. E. Davis.....	do....	100	990	E. H. Stanton.....	do....	100
928	Mrs. L. G. Plunkett	do....	100	991	L. U. White	do....	100
929	Miss Fannie Willard ..	do....	100	992	N. J. Gilmore	do....	100
930	Mrs. J. G. Cousins	do....	100	993	E. Trumbull.....	do....	100
931	Mrs. E. Remington	do....	100	994	K. McC. Elliott	do....	100
932	Mrs. M. A. Lathrop....	do....	100	995	P. A. Carter.....	do....	100
933	Mrs. E. A. Rogers.....	do....	100	996	S. Hopps.....	do....	100
934	Mrs. S. A. Babcock....	do....	100	997	Irene Hunter	do....	100
935	Miss M. Morgan.....	do....	100	998	M. E. George	do....	100
936	Mrs. A. L. Eddy.....	do....	100	999	M. J. Gozzler	do....	100
937	Mrs. C. T. Smith	do....	100	1000	L. McPeak	do....	100

List of clerks in the Treasury Department, &c.—Continued.

No.	Name.	Class.	Am't.	No.	Name.	Class.	Am't.
1001	A. R. Drayton.....	Counter	\$100	1054	A. E. Cunningham ..	Counter	\$100
1002	K. F. Keene	do....	100	1055	M. V. Tennison.....	do....	100
1003	F. B. Stelle	do....	100	1056	F. M. Gilbert.....	do....	100
1004	A. J. Marston	do....	100	1057	Martha Stewart.....	do....	100
1005	M. E. Robinson	do....	100	1058	E. Lester	do....	100
1006	Susie Clarke	do....	100	1059	E. C. Washburne	do....	100
1007	Emma Howard.....	do....	100	1060	H. R. De Ronceray ..	do....	100
1008	M. H. Nicholls.....	do....	100	1061	Ella Barber.....	do....	100
1009	Delia Sloane.....	do....	100	1062	M. A. Gibson.....	do....	100
1010	R. C. Whitman	do....	100	1063	C. L. Cutter.....	do....	100
1011	Ellen Hebb.....	do....	100	1064	L. E. Everett	do....	100
1012	M. A. Stetson.....	do....	100	1065	L. M. Johns	do....	100
1013	L. R. Russell	do....	100	1066	A. McWilliams.....	do....	100
1014	L. W. Whitman.....	do....	100	1067	W. W. Markley.....	do....	100
1015	A. C. Houston	do....	100	1068	Hettie Shaw.....	do....	100
1016	Anna S. Parsons	do....	100	1069	M. Bennett	do....	100
1017	C. Harleston.....	do....	100	1070	S. E. Malone.....	do....	100
1018	Lucy H. Smith.....	do....	100	1071	S. A. Hughes	do....	100
1019	M. A. Spalding.....	do....	100	1072	H. Hanscom	do....	100
1020	Sarah P. Jones	do....	100	1073	Mary Ashby	do....	100
1021	Willie R. Fitzpatrick..	do....	100	1074	H. Brown.....	do....	100
1022	A. C. Benedict	do....	100	1075	Ella Ladde.....	do....	100
1023	Mary S. Selee.....	do....	100	1076	S. A. Mason.....	do....	100
1024	E. J. Gay.....	do....	100	1077	S. E. Thomason.....	do....	100
1025	C. M. Melville.....	do....	100	1078	L. C. O'Flynn.....	do....	100
1026	A. J. Johnson.....	do....	100	1079	H. D. Handy.....	do....	100
1027	Emma J. Oler.....	do....	100	1080	N. C. Beard.....	do....	100
1028	W. W. Todd	do....	100	1081	S. W. Chaffee.....	do....	100
1029	H. C. Briggs.....	do....	100	1082	J. Duvall	do....	100
1030	C. E. Bowie.....	do....	100	1083	M. F. Calvert	do....	100
1031	J. G. Shearer.....	do....	100	1084	M. A. Glines	do....	100
1032	S. G. Anderson.....	do....	100	1085	Ann Hayward.....	do....	100
1033	Eva Sprague.....	do....	100	1086	Mary Keene.....	do....	100
1034	Helen M. Joslyn	do....	100	1087	Ella Mygatt.....	do....	100
1035	Sophia Pochon	do....	100	1088	E. McLeod.....	do....	100
1036	Miss E. Hartwell.....	do....	100	1089	M. A. Newkirk.....	do....	100
1037	C. M. Bloor.....	do....	100	1090	E. R. S. Norris	do....	100
1038	A. E. Sommers.....	do....	100	1091	F. C. Steele	do....	100
1039	Sarah A. Draine	do....	100	1092	F. C. Smead	do....	100
1040	M. S. Saunders.....	do....	100	1093	L. Smith.....	do....	100
1041	E. E. Spanier	do....	100	1094	Julia S. Wheelock ..	do....	100
1042	Clara O. Whittier	do....	100	1095	E. Wingate	do....	100
1043	S. Hebb.....	do....	100	1096	M. E. Kelley.....	do....	100
1044	M. A. Willis	do....	100	1097	A. H. Forster	do....	100
1045	Mary E. Little	do....	100	1098	J. A. Tall.....	do....	100
1046	V. Carter	do....	100	1099	M. V. McQueston ..	do....	100
1047	Mrs. E. McIntyre	do....	100	1100	Lucille De Land.....	do....	100
1048	P. Rodier	do....	100	1101	J. L. Morse	do....	100
1049	K. Kearon	do....	100	1102	H. L. Kimball.....	do....	100
1050	Mollie M. Little	do....	100	1103	Helen Griffin.....	do....	100
1051	A. G. Sprigg.....	do....	100	1104	C. A. Morris	do....	100
1052	S. C. Harrison.....	do....	100	1105	Mary Johnson.....	do....	100
1053	E. J. Stevens.....	do....	100				
					Total.....		110,500

Name.	Class.	Position held.	Paid in quarters of 1865.			Paid in quarters of 1866.			Amount.
			Second.	Third.	Fourth.	First.	Second.	Third.	
William E. Chandler*		Assistant Secretary						\$250 00	\$250 00
John F. Hartley		do						250 00	250 00
R. W. Taylor		First Comptroller						375 00	375 00
J. M. Brodhead		Second Comptroller						375 00	375 00
T. L. Smith		First Auditor						250 00	250 00
E. B. French		Second Auditor						250 00	250 00
John Wilson		Third Auditor						250 00	250 00
S. J. W. Tabor		Fourth Auditor						250 00	250 00
C. M. Walker		Fifth Auditor						250 00	250 00
H. J. Anderson		Sixth Auditor						250 00	250 00
S. B. Colby		Register						250 00	250 00
N. Sargent		Commissioner of Customs						250 00	250 00
Edward Jordan		Solicitor						250 00	250 00
A. B. Mullett*		Supervising architect						125 00	125 00
S. M. Clark		Chief of first division, National Currency Bureau						250 00	250 00
William W. West	Chief clerk	Chief clerk, Treasury Department	\$50 00			\$50 00			100 00
Hamilton Seville	Fourth	Head of division, or duties analogous thereto	50 00	\$50 00	\$50 00	50 00	\$100 00	125 00	425 00
William Handy	do	do	50 00	50 00	50 00	50 00	100 00	175 00	475 00
William Elder	do	do	100 00	100 00	100 00	100 00	100 00	100 00	600 00
Aug. Edwards	do	do	100 00	100 00	100 00	100 00	100 00	175 00	675 00
D. Lyman	do	do	50 00	50 00	50 00	50 00	50 00	175 00	425 00
R. T. Birchett	do	do	50 00	50 00	50 00	50 00	50 00	100 00	350 00
E. P. Gaines	do	do	100 00	100 00	100 00	100 00	100 00		500 00
William Matthews	Third	do	50 00	50 00	50 00	50 00	50 00	121 24	371 24
S. Yorke AtLee	do	do	50 00	50 00	50 00	50 00	50 00	100 00	350 00
C. A. Sherman	Fourth	do	50 00	50 00					100 00
S. W. Marsh	\$2,000.	In charge of loan branch	125 00	125 00	125 00	125 00	125 00	125 00	750 00
Thomas G. Jones	Fourth	Head of division, or duties analogous thereto	50 00	50 00					100 00
T. H. G. Todd	Third	do	50 00	50 00					100 00

* The sums set opposite the names of Wm. E. Chandler and A. B. Mullett were awarded for the third quarter of 1866, but as yet they have not drawn on the cashier for the amounts.

EXTRA COMPENSATION TO CLERKS

Additional compensation paid, &c.—Continued.

Name.	Class.	Position held.	Paid in quarters of 1865.			Paid in quarters of 1866.			Amount.
			Second.	Third.	Fourth.	First.	Second.	Third.	
W. H. Andrews	Fourth	Head of division, or duties analogous thereto.	\$100 00	-----	\$100 00	\$100 00	\$200 00	\$125 00	\$625 00
John Irwin	Third	do	50 00	\$50 00	50 00	50 00	50 00	50 00	300 00
A. William Lee	do	do	50 00	50 00	50 00	50 00	-----	50 00	250 00
G. A. Bates	Second	do	50 00	50 00	50 00	50 00	50 00	50 00	300 00
William Fletcher	Third	do	50 00	50 00	50 00	50 00	50 00	-----	250 00
S. F. Dolbear	Second	do	50 00	-----	-----	-----	-----	-----	50 00
George L. Warren	do	do	50 00	-----	50 00	50 00	50 00	-----	200 00
William H. Fry	Fourth	do	50 00	50 00	50 00	50 00	50 00	50 00	300 00
A. S. Pratt	do	do	100 00	100 00	100 00	100 00	100 00	175 00	675 00
E. S. Turner	Third	do	50 00	50 00	50 00	50 00	50 00	50 00	300 00
F. K. Arnold	do	do	50 00	50 00	50 00	50 00	-----	-----	200 00
L. B. Wyman	Fourth	do	50 00	-----	-----	-----	-----	-----	50 00
J. N. Burket	Second	do	50 00	50 00	50 00	50 00	50 00	50 00	300 00
F. F. A. Simpkins	Third	do	50 00	50 00	50 00	50 00	50 00	50 00	350 00
S. F. Carr	Fourth	do	50 00	50 00	50 00	50 00	50 00	50 00	375 00
Lewis Heyl	do	do	-----	200 00	100 00	100 00	100 00	100 00	600 00
S. H. Cutts	Third	do	-----	50 00	50 00	50 00	50 00	50 00	250 00
William A. Meloy	Fourth	do	-----	50 00	50 00	50 00	50 00	100 00	300 00
J. P. Bigelow	Third	do	-----	100 00	50 00	50 00	50 00	50 00	300 00
Henry Lowmence	Second	do	-----	50 00	-----	-----	-----	-----	50 00
E. Eaton Creecy	Fourth	do	-----	-----	50 00	50 00	100 00	175 00	375 00
George Wood	Third	do	-----	-----	100 00	100 00	100 00	150 00	450 00
N. B. Devereaux	do	do	-----	-----	50 00	50 00	50 00	100 00	250 00
M. F. Lackey	Fourth	do	-----	-----	50 00	50 00	50 00	100 00	250 00
H. C. Westervelt	Third	do	-----	-----	50 00	50 00	50 00	100 00	250 00
Bushrod Birch	do	do	-----	-----	50 00	50 00	50 00	125 00	275 00
Fred. Chase	Third	do	-----	-----	50 00	50 00	50 00	100 00	250 00
Edward Moran	do	do	-----	-----	50 00	50 00	50 00	-----	150 00
John J. Knox	Fourth	do	-----	-----	-----	50 00	50 00	125 00	225 00
James M. Davis	do	do	-----	-----	-----	50 00	50 00	50 00	150 00
F. G. Ranney	do	do	-----	-----	-----	50 00	50 00	50 00	100 00
C. C. Sniffin	do	do	-----	-----	-----	-----	50 00	50 00	100 00

[illegible]

EXTRA COMPENSATION TO CLERKS

Additional compensation paid, &c.—Continued.

Name.	Class.	Position held.	Paid in quarters of 1865.				Paid in quarters of 1866.			Amount.
			Second.	Third.	Fourth.		First.	Second.	Third.	
C. P. Blachmar	Fourth	Head of division, or duties analogous thereto	\$125 00	\$125 00	\$125 00		\$125 00	\$125 00	\$125 00	\$750 00
John B. Patterson	do	do	125 00	125 00	125 00		125 00	125 00	125 00	750 00
John M. Sims	do	do	125 00	125 00	125 00		125 00	125 00	125 00	750 00
D. H. Lusk	do	do	125 00	125 00	125 00		125 00	125 00	125 00	750 00
O. C. Houghton	Third	do	100 00	100 00	100 00		100 00	100 00	100 00	600 00
E. F. Ferris	do	do	50 00	50 00	50 00		50 00	50 00	50 00	300 00
John H. Thompson	do	do	50 00	50 00	50 00		50 00	50 00	50 00	300 00
William E. Spencer	do	do	50 00	50 00	50 00					150 00
Charles H. Moulton	do	do	50 00	50 00	50 00		50 00	50 00	50 00	300 00
J. B. Lawyer	do	do	50 00	50 00	50 00		50 00	50 00	50 00	300 00
E. G. Guest	do	do	50 00							50 00
S. H. Goodman	do	do	50 00	50 00	50 00		50 00			200 00
J. D. Stevens	do	do	50 00	50 00	50 00		50 00	50 00	50 00	300 00
T. C. Bailey	do	do	50 00	50 00	50 00		50 00	50 00	50 00	300 00
S. B. Morse	do	do	50 00	50 00	50 00		50 00	50 00	50 00	300 00
T. C. Smart	do	do	50 00	50 00	50 00		50 00	50 00	50 00	300 00
H. A. Whallon	do	do	50 00	50 00	50 00		50 00	50 00	50 00	300 00
G. W. Akers	do	do	50 00	50 00	50 00		50 00	50 00	50 00	300 00
O. L. Keene	do	do	50 00	50 00	50 00		50 00	50 00	50 00	300 00
Joseph Barton	do	do	50 00	50 00	50 00					150 00
James P. Hawes	do	do	50 00				50 00	50 00	50 00	200 00
R. E. O'Neill	do	do	50 00	50 00	50 00		50 00	50 00	50 00	100 00
John M. Colby	do	do	50 00	50 00	50 00		50 00	50 00	50 00	300 00
C. M. Parks	do	do	50 00							300 00
F. G. Brown	do	do	50 00	50 00	50 00					50 00
H. C. Harmon	do	do		50 00	50 00		50 00	50 00	50 00	300 00
S. W. Allen	do	do		50 00			50 00	50 00		250 00
C. W. Forrest	do	do		50 00						50 00
B. F. Parsons	do	do		50 00	50 00		50 00	50 00	50 00	250 00
Lucien Jones	do	do								250 00
E. H. Taylor	do	do		50 00	50 00					100 00
A. V. S. Smith	do	do					50 00	50 00	50 00	150 00
	do	do					50 00	50 00	50 00	150 00

Additional compensation paid, &c.—Continued.

Name.	Class.	Position held.	Paid in quarters of 1865.				Paid in quarters of 1866.			Amount.
			Second.	Third.	Fourth.		First.	Second.	Third.	
C. H. Conrad.....	Second	Head of division, or duties analogous thereto	\$50 00	\$50 00	\$50 00		\$100 00	\$50 00	\$50 00	\$100 00
E. Eveleth.....	Fourth	do.....do		50 00	50 00			100 00	100 00	450 00
James O. Fanning.....	Third	do.....do		50 00	50 00					100 00
George H. Thurston.....	Second	do.....do					50 00	50 00	50 00	250 00
H. W. Brelsford.....	do	do.....do					50 00			100 00
I. S. Smith.....	Third	do.....do					50 00	50 00		150 00
James Fishback.....	Fourth	do.....do					50 00	50 00		250 00
S. C. Roberts.....	Third	do.....do					50 00	50 00	50 00	200 00
H. C. Gill.....	Fourth	do.....do					66 66	100 00		166 66
O. W. Cooke.....	Third	do.....do					50 00	50 00	50 00	150 00
J. R. Thompson.....	do	do.....do								100 00
Benjamin Nute, jr.....	Second	do.....do								50 00
J. C. Greene.....	do	do.....do								50 00
A. A. Shissler.....	do	do.....do								50 00
G. W. Nutt.....	do	do.....do								50 00
H. H. Bates.....	do	do.....do								50 00
J. C. Baxter.....	do	do.....do								50 00
J. W. F. Cunz.....	do	do.....do								50 00
H. D. Tyler.....	Third	do.....do								50 00
T. H. Martin.....	Second	do.....do								50 00
J. G. Nokes.....	do	do.....do								50 00
J. N. Whitney.....	do	do.....do								50 00
W. T. Van Dorn.....	Third	do.....do								50 00
Henry Rogers.....	do	do.....do								50 00
Richard Oulahan.....	do	do.....do								50 00
B. A. Janvier.....	do	do.....do								50 00
Henry Sherman.....	Fourth	do.....do								200 00
William A. Cronwell.....	Chief clerk	Chief clerk, Fourth Auditor	100 00	100 00	78 26			100 00	100 00	278 26
A. H. Mechlin.....	Third	Head of division, or duties analogous thereto	50 00	50 00						100 00
W. L. Waller.....	do	do.....do	50 00	50 00	50 00		50 00	50 00	50 00	300 00
William B. Moore.....	Fourth	do.....do	50 00	50 00	60 87		100 00	100 00	125 00	485 87
S. M. B. Servoss.....	do	do.....do	50 00	50 00	50 00		50 00	50 00	50 00	300 00

T. D. Winter	do.	do.	do.	do.	do.	do.	do.	do.	do.
G. M. Head	Third	do.	do.	do.	do.	do.	do.	do.	do.
A. C. Adamson	Fourth	do.	do.	do.	do.	do.	do.	do.	do.
R. Ricketts	do.	do.	do.	do.	do.	do.	do.	do.	do.
Edward Kenney	Second	do.	do.	do.	do.	do.	do.	do.	do.
W. F. Stidham	do.	do.	do.	do.	do.	do.	do.	do.	do.
B. P. Davis	Third	do.	do.	do.	do.	do.	do.	do.	do.
P. T. Roach	do.	do.	do.	do.	do.	do.	do.	do.	do.
T. M. Smith	Chief clerk.	Chief clerk, Fifth Auditor	do.	do.	do.	do.	do.	do.	do.
W. S. Mills	Second	Head of division, or duties analogous thereto	do.	do.	do.	do.	do.	do.	do.
H. L. Bosworth	First	do.	do.	do.	do.	do.	do.	do.	do.
George Cowie	Fourth	do.	do.	do.	do.	do.	do.	do.	do.
E. King	Second	do.	do.	do.	do.	do.	do.	do.	do.
Hiram Pitts	First	do.	do.	do.	do.	do.	do.	do.	do.
J. B. Mann	Fourth	do.	do.	do.	do.	do.	do.	do.	do.
George A. Digges	First	do.	do.	do.	do.	do.	do.	do.	do.
R. B. Detrick	do.	do.	do.	do.	do.	do.	do.	do.	do.
F. Kroell	Second	do.	do.	do.	do.	do.	do.	do.	do.
A. O. Latham	First	do.	do.	do.	do.	do.	do.	do.	do.
Thomas Mustin	Third	do.	do.	do.	do.	do.	do.	do.	do.
Charles F. Schmidt	do.	do.	do.	do.	do.	do.	do.	do.	do.
H. Warrington	do.	do.	do.	do.	do.	do.	do.	do.	do.
A. McKnight	Second	do.	do.	do.	do.	do.	do.	do.	do.
J. M. McGrew	Chief clerk.	Chief clerk, Sixth Auditor	do.	do.	do.	do.	do.	do.	do.
F. J. Seybolt	Fourth	Head of division, or duties analogous thereto	do.	do.	do.	do.	do.	do.	do.
G. B. Holden	do.	do.	do.	do.	do.	do.	do.	do.	do.
E. W. Fortney	do.	do.	do.	do.	do.	do.	do.	do.	do.
J. P. Wheeler	Third	do.	do.	do.	do.	do.	do.	do.	do.
B. Lippincott	Fourth	do.	do.	do.	do.	do.	do.	do.	do.
C. W. Nicholls	do.	do.	do.	do.	do.	do.	do.	do.	do.
C. Hazlett	do.	do.	do.	do.	do.	do.	do.	do.	do.
J. A. Ware	do.	do.	do.	do.	do.	do.	do.	do.	do.
C. B. R. Colledge	Second	do.	do.	do.	do.	do.	do.	do.	do.
C. A. Tavener	Third	do.	do.	do.	do.	do.	do.	do.	do.
J. O. Wilson	do.	do.	do.	do.	do.	do.	do.	do.	do.
E. W. Foster	do.	do.	do.	do.	do.	do.	do.	do.	do.
J. B. Will	do.	do.	do.	do.	do.	do.	do.	do.	do.
John Lynch	do.	do.	do.	do.	do.	do.	do.	do.	do.
E. J. Evans	do.	do.	do.	do.	do.	do.	do.	do.	do.
F. M. Lalor	Second	do.	do.	do.	do.	do.	do.	do.	do.
W. H. Sullivan	Third	do.	do.	do.	do.	do.	do.	do.	do.

C. Hosmer.....	do.....	do.....	do.....	50 00	50 00	50 00	50 00	50 00	50 00	300 00
J. A. Coburn.....	Fourth.....	do.....	do.....	50 00	50 00	50 00	50 00	50 00	50 00	550 00
M. Campbell.....	Third.....	do.....	do.....	50 00	50 00	50 00	50 00	50 00	50 00	300 00
E. B. Curtis.....	Fourth.....	do.....	do.....	50 00	50 00	50 00	50 00	50 00	50 00	550 00
J. L. Cathcart.....	Third.....	do.....	do.....	50 00	50 00	50 00	50 00	50 00	50 00	300 00
J. F. Evans.....	do.....	do.....	do.....	50 00	50 00	50 00	50 00	50 00	50 00	300 00
F. A. Jennings.....	Fourth.....	do.....	do.....	50 00	50 00	50 00	50 00	50 00	50 00	300 00
John Prince.....	Third.....	do.....	do.....	50 00	50 00	50 00	50 00	50 00	50 00	300 00
T. Purrington.....	do.....	do.....	do.....	50 00	50 00	50 00	50 00	50 00	50 00	300 00
C. C. Stevens.....	do.....	do.....	do.....	50 00	50 00	50 00	50 00	50 00	50 00	300 00
J. W. Butterfield.....	Fourth.....	do.....	do.....	50 00	50 00	50 00	50 00	50 00	50 00	300 00
J. S. Delano.....	do.....	do.....	do.....	50 00	50 00	50 00	50 00	50 00	50 00	300 00
J. B. Stitt.....	Third.....	do.....	do.....	50 00	50 00	50 00	50 00	50 00	50 00	150 00
Alexander Ewings.....	do.....	do.....	do.....	50 00	50 00	50 00	50 00	50 00	50 00	250 00
J. Wes. Smith*.....	Second.....	do.....	do.....	50 00	50 00	50 00	50 00	50 00	50 00	325 00
David Potts.....	do.....	do.....	do.....	50 00	50 00	50 00	50 00	50 00	50 00	250 00
J. M. Cobb.....	Second.....	do.....	do.....	50 00	50 00	50 00	50 00	50 00	50 00	200 00
John H. Houston.....	do.....	do.....	do.....	50 00	50 00	50 00	50 00	50 00	50 00	200 00
S. M. Nimount.....	Third.....	do.....	do.....	50 00	50 00	50 00	50 00	50 00	50 00	150 00
J. T. Pike.....	do.....	do.....	do.....	50 00	50 00	50 00	50 00	50 00	50 00	200 00
A. S. White.....	do.....	do.....	do.....	50 00	50 00	50 00	50 00	50 00	50 00	50 00
J. D. Bartlett.....	Second.....	do.....	do.....	50 00	50 00	50 00	50 00	50 00	50 00	50 00
J. T. Clarke.....	Fourth.....	do.....	do.....	50 00	50 00	50 00	50 00	50 00	50 00	50 00
C. E. Dailey.....	Third.....	do.....	do.....	50 00	50 00	50 00	50 00	50 00	50 00	50 00
E. F. French.....	Fourth.....	do.....	do.....	50 00	50 00	50 00	50 00	50 00	50 00	50 00
S. T. Howard.....	Dept'y Comp.....	do.....	do.....	125 00	42 00	125 00	125 00	125 00	125 00	167 00
Albon Man.....	Fourth.....	do.....	do.....	100 00	150 00	150 00	150 00	150 00	150 00	400 00
H. R. Hulburd†.....	do.....	do.....	do.....	100 00	125 00	125 00	125 00	125 00	125 00	650 00
Hiram Baldwin.....	do.....	do.....	do.....	50 00	50 00	50 00	50 00	50 00	50 00	400 00
Charles Van Dusen.....	Third.....	do.....	do.....	50 00	50 00	50 00	50 00	50 00	50 00	100 00
L. M. Price.....	Fourth.....	do.....	do.....	50 00	50 00	50 00	50 00	50 00	50 00	100 00
H. W. Jennings.....	do.....	do.....	do.....	50 00	50 00	50 00	50 00	50 00	50 00	100 00
J. T. Howenstien.....	do.....	do.....	do.....	50 00	50 00	50 00	50 00	50 00	50 00	100 00
F. Bates.....	do.....	do.....	do.....	50 00	50 00	50 00	50 00	50 00	50 00	50 00
George W. Lord.....	do.....	do.....	do.....	50 00	50 00	50 00	50 00	50 00	50 00	50 00
Thomas Harland.....	Dept'y Com'r.....	do.....	do.....	100 00	71 02	100 00	100 00	100 00	100 00	171 02
A. B. Johnson.....	Fourth.....	do.....	do.....	83 33	100 00	100 00	100 00	100 00	100 00	583 33
J. Kimball.....	do.....	do.....	do.....	50 00	50 00	50 00	50 00	50 00	50 00	425 00
E. A. Rollins†.....	Dept'y Com'r.....	do.....	do.....	125 00	125 00	125 00	125 00	125 00	125 00	291 67
William Richards.....	Fourth.....	do.....	do.....	20 00	41 67	41 67	41 67	41 67	41 67	20 00

* Promoted to chief clerk in the third quarter of 1865.

† Promoted to deputy comptroller in the third quarter of 1865.

‡ Appointed commissioner first quarter 1866.

EXTRA COMPENSATION TO CLERKS

Additional compensation paid, &c.—Continued.

Name.	Class.	Position held.	Paid in quarters of 1865.				Paid in quarters of 1866.			Amount.
			Second.	Third.	Fourth.	First.	Second.	Third.		
S. M. Wilcox	Fourth.	Head of division.	\$50 00	\$50 00	\$50 00	\$70 00	\$70 00	\$25 00	\$150 00	
Jane M. Seavey		In charge of ladies	70 00	70 00	70 00				375 00	
D. C. Whitman	Depty Com'r.	Deputy Commissioner Internal Revenue		156 00	125 00	125 00	125 00		531 00	
C. H. Parsons	Cashier	Cashier, Internal Revenue	100 00	100 00	100 00	100 00	100 00		500 00	
W. W. Harder	Fourth.	Head of division or duties analogous thereto		57 18	175 00	175 00	175 00		582 18	
C. E. Pike	do	do		123 61	175 00	175 00	175 00		648 61	
George Parnell	do	do				125 00	125 00		250 00	
Charles Chesley	do	do					100 00		200 00	
W. G. Parkhurst	do	do						100 00	100 00	
J. C. Jansen	do	do						50 00	50 00	
C. H. Machin	do	do						50 00	50 00	
H. A. Blood	do	do						50 00	50 00	
S. P. Doolittle	do	do						50 00	50 00	
T. A. Cushing	do	do						50 00	50 00	
John B. Taylor	do	do						50 00	50 00	
Thomas Feran	Chief clerk.	Chief clerk, Commissioner of Customs	100 00	100 00	100 00	100 00	100 00	125 00	625 00	
De W. Haines	Fourth	Head of division or duties analogous thereto	50 00	50 00	50 00	50 00	50 00		250 00	
H. A. Lockwood	do	do	50 00	50 00	50 00	50 00	50 00	100 00	350 00	
John D. Barclay	Third.	do	50 00	50 00	50 00	50 00	50 00	50 00	300 00	
I. J. Post	do	do	50 00	50 00	50 00	50 00	16 48		216 48	
C. W. Bradbury	do	do	50 00	50 00	50 00	50 00	50 00	50 00	300 00	
J. Thurman	do	do	50 00	50 00	50 00	50 00	50 00	50 00	300 00	
G. W. L. Kidwell	Second	do	50 00	50 00	50 00	50 00	50 00		250 00	
Dan Weed	do	do	50 00	50 00	50 00	50 00	50 00		300 00	
H. M. Baker	Third	do					33 52		83 52	
J. Sanderson	Second	do						37 50	37 50	
J. W. Sargent	do	do						37 50	37 50	
A. Miller	do	do						37 50	37 50	
J. F. Gleason	First	do							25 00	
J. R. Fletcher	do	do							25 00	
H. C. Stroman	Third.	do							25 00	
Charles C. Edwins	Second	do	100 00	100 00	83 33	50 00	50 00	50 00	433 33	

[illegible]

*\$2,500 + \$2,200

EXTRA COMPENSATION TO CLERKS

Additional compensation paid, &c.—Continued.

Name.	Class.	Position held.	Paid in quarters of 1865.				Paid in quarters of 1866.			Amount.
			Second.	Third.	Fourth.	First.	Second.	Third.		
Willis Patten	Fourth	Head of division, or duties analogous thereto						\$25 00	\$35 00	
Lewis Mann	do	do						25 00	25 00	
Thomas Petingale	do	do						25 00	25 00	
Mrs. L. E. Rosenberg	\$900 00	Copyist and counter						25 00	25 00	
Mrs. M. M. Watson	do	do						25 00	25 00	
Mrs. M. J. Patterson	do	do						25 00	25 00	
Miss S. A. Bradley	do	do						25 00	25 00	
Miss Jennie Foster	do	do						25 00	25 00	
Miss Kate Waters	do	do						25 00	25 00	
Miss F. S. Hoey	do	do						25 00	25 00	
Miss A. J. Simpson	do	do						25 00	25 00	
Mrs. L. G. Plunkett	do	do						25 00	25 00	
Mrs. N. Carter	do	do						25 00	25 00	
Miss Augusta Cook	do	do						25 00	25 00	
Miss Susan Duggan	do	do						25 00	25 00	
Miss M. C. Steele	do	do						25 00	25 00	
Miss H. C. Keller	do	do						25 00	25 00	
Miss R. I. Wilson	do	do						25 00	25 00	
Mrs. H. Devendorf	do	do						25 00	25 00	
Mrs. V. Handy	do	do						25 00	25 00	
Mrs. D. Griffith	do	do						25 00	25 00	
Mrs. Maggie Roe	do	do						25 00	25 00	
Miss A. S. Tracy	do	do						25 00	25 00	
Miss F. L. Halsted	do	do						25 00	25 00	
Miss J. G. May	do	do						25 00	25 00	
Miss Martha Smith	do	do						25 00	25 00	
Miss F. McKean	do	do						25 00	25 00	
Miss H. Farquhar	do	do						12 50	12 50	
Miss E. J. Campbell	do	do						12 50	12 50	
Miss Mary K. Reilly	do	do						12 50	12 50	
Miss Fannie Willard	do	do						12 50	12 50	
Miss Annie Kearney	do	do						12 50	12 50	

Mrs. C. T. Smith.....	do.....	do.....
Miss H. L. Gould.....	do.....	do.....
Mrs. Eliz. Burke.....	do.....	do.....
Mrs. Eliz. Barlett.....	do.....	do.....
Mrs. Mary A Bassett.....	do.....	do.....
Miss E. Brainerd.....	do.....	do.....
Mrs. E. Becker.....	do.....	do.....
Miss Mary E. Brawner.....	do.....	do.....
Miss D. L. Clark.....	do.....	do.....
Mrs. E. Crittenden.....	do.....	do.....
Miss M. A. Cushing.....	do.....	do.....
Miss K. M. Darling.....	do.....	do.....
Miss S. J. Carson.....	do.....	do.....
Miss C. E. Cross.....	do.....	do.....
Mrs. M. S. Gallagher.....	do.....	do.....
Mrs. Helen D. Green.....	do.....	do.....
Miss E. R. Graves.....	do.....	do.....
Miss Lydia S. Hall.....	do.....	do.....
Miss H. N. Henshaw.....	do.....	do.....
Miss E. A. Kinney.....	do.....	do.....
Mrs. M. A. Lathrop.....	do.....	do.....
Mrs. Fannie Lamb.....	do.....	do.....
Mrs. H. A. McConnell.....	do.....	do.....
Miss E. M. Mason.....	do.....	do.....
Mrs. A. Mintzer.....	do.....	do.....
Mrs. Annie McCain.....	do.....	do.....
Miss Maggie Morgan.....	do.....	do.....
Mrs. Jennie Morgan.....	do.....	do.....
Miss C. E. Noyes.....	do.....	do.....
Mrs. E. J. Oler.....	do.....	do.....
Miss Mary E. Pierce.....	do.....	do.....
Miss J. M. Pyfer.....	do.....	do.....
Miss E. Printz.....	do.....	do.....
Miss H. K. Peal.....	do.....	do.....
Miss E. Plimpton.....	do.....	do.....
Mrs S. A. Reid.....	do.....	do.....
Mrs. E. Ringgold.....	do.....	do.....
Mrs. Jennie E. Simons.....	do.....	do.....
Mrs. E. M. Simons.....	do.....	do.....
Mrs. Mary E. Storer.....	do.....	do.....
Miss Mary J. Storer.....	do.....	do.....

EXTRA COMPENSATION TO CLERKS

Additional compensation paid, &c.—Continued.

Name.	Class.	Position held.	Paid in quarters of 1865.			Paid in quarters of 1866.			Amount.
			Second.	Third.	Fourth.	First.	Second.	Third.	
Miss H. Shields.	\$900	Copyist and counter	---	---	---	---	---	\$12 50	\$12 50
Miss Mary Taylor	do.	do.	---	---	---	---	---	12 50	12 50
Mrs. W. A. Frankler	do.	do.	---	---	---	---	---	12 50	12 50
Miss J. L. Wall	do.	do.	---	---	---	---	---	12 50	12 50
Miss M. White.	do.	do.	---	---	---	---	---	12 50	12 50
Miss E. W. Wright.	do.	do.	---	---	---	---	---	12 50	12 50
Miss L. L. Wilson	do.	do.	---	---	---	---	---	12 50	12 50
Miss Kate Yeager	do.	do.	---	---	---	---	---	12 50	12 50
Mrs. G. P. Clark	do.	do.	---	---	---	---	---	12 50	12 50
John A. Graham	Ass't register.	do.	125 00	14 94	235 06	125 00	125 00	125 00	750 00
B. F. Rittenhouse	Chief clerk	Assistant Register of Treasury.	75 00	98 11	100 00	100 00	100 00	125 00	598 11
John Oliphant	\$2,000	Chief clerk, Register's	75 00	75 00	75 00	75 00	75 00	125 00	500 00
H. C. Gill	Fourth	Head of division, or duties analogous thereto	50 00	50 00	50 00	17 22	---	---	167 22
Albert Day	\$2,000.	do.	50 00	50 00	50 00	50 00	11 00	---	211 00
John R. Nourse.	Fourth	do.	50 00	50 00	50 00	50 00	50 00	50 00	300 00
J. Moody Smith	do.	do.	50 00	50 00	50 00	50 00	50 00	---	250 00
E. Moore	\$2,000.	do.	50 00	50 00	50 00	50 00	50 00	---	325 00
L. D. Moore	Fourth	do.	50 00	50 00	50 00	50 00	50 00	75 00	325 00
A. B. Morse	Second	do.	50 00	16 84	---	50 00	50 00	75 00	325 00
Isaac Angney	First	do.	37 50	37 50	37 50	37 50	37 50	---	66 84
L. D. Reynolds	Fourth	do.	---	50 00	50 00	50 00	---	---	187 50
H. Jenison	Third.	do.	---	50 00	50 00	50 00	50 00	---	150 00
Edgar Patterson	do.	do.	---	50 00	50 00	50 00	50 00	50 00	250 00
J. C. Brand, jr.	do.	do.	---	50 00	50 00	50 00	50 00	---	200 00
Z. Richards.	do.	do.	---	50 00	50 00	50 00	50 00	---	200 00
Thomas Clear.	do.	do.	---	50 00	50 00	50 00	50 00	50 00	250 00
Win. Guilford.	do.	do.	---	50 00	50 00	50 00	50 00	---	200 00
A. C. Dyer.	do.	do.	---	50 00	50 00	50 00	50 00	50 00	250 00
Charles W. Spear	Fourth	do.	---	---	---	32 78	---	---	100 00
E. W. Bowen.	do.	do.	---	---	---	---	50 00	50 00	132 78
Fred. Kley	do.	do.	---	---	---	---	39 00	50 00	89 00
F. S. Nicholls	Third	do.	---	---	---	---	50 00	50 00	100 00
		do.	---	---	---	---	50 00	---	50 00

[illegible]

RECAPITULATION:

Amount paid temporary clerks.....	\$100,648 78
Amount paid to employes receiving less than \$1,400 per annum, act July 23, 1866.....	110,500 00
Amount paid as additional compensation up to and including September 30, 1866.....	99,068 16
Total.....	310,216 94

PARDONS BY THE PRESIDENT.

MESSAGE

FROM THE

PRESIDENT OF THE UNITED STATES

IN ANSWER TO

A resolution of the House of 10th of December, transmitting names of persons pardoned by the President who have been engaged in rebellion.

JANUARY 9, 1867.—Referred to the Committee on the Judiciary and ordered to be printed

To the House of Representatives :

I transmit the accompanying report from the Attorney General as a partial reply to the resolution of the House of Representatives of the 10th ultimo, requesting a "list of names of all persons engaged in the late rebellion against the United States government who have been pardoned by the President from April 15, 1865, to this date; that said list shall also state the rank of each person who has been so pardoned if he has been engaged in the military service of the so-called confederate government, and the position if he shall have held any civil office under said so-called confederate government; and shall also further state whether such person has at any time prior to April 14, 1861, held any office under the United States government, and if so what office, together with the reasons for granting such pardons; and also the names of the person or persons at whose solicitation such pardon was granted."

ANDREW JOHNSON.

WASHINGTON, *January 8, 1867.*

ATTORNEY GENERAL'S OFFICE,

Washington, December 31, 1866.

SIR: I have the honor to submit to you, in reply to the resolution of the House of Representatives of December 10, 1866, calling for information in regard to pardons, the enclosed partial report, which embraces all the pardons granted to the high officials lately in rebellion.

It is impossible, with the small clerical force allowed by law to this office, to answer in full the said resolution before the adjournment of Congress.

I have the honor to be, very respectfully, your obedient servant,

HENRY STANBERRY, *Attorney General.*

The PRESIDENT.

SOUTH CAROLINA.

Name.	Exemption under amnesty proclamation of May 29, 1865.	By whom recommended.	Date of pardon.
William Aiken.....	Ex-governor.....	<p>Ex-Governor B. F. Perry, Hon. Montgomery Blair, John E. Claremont, E. Vanden Horst, James Lynah, J. E. Holmes, John Phillips, Jas. B. Campbell, E. W. Marshall, T. G. Sineret, Fred. Richards, Wm. Whaley, Julien Mitchell, John B. Whaley, E. Montague Grinkle, S. G. Courtenay, Jacob Willman, R. H. Hanakan, H. Cogswell, F. J. Silyer, H. Bischoff, W. I. Morney, Thomas W. Covert, Perry O. Bryan, H. R. Jacobs, S. M. Fischezebe, W. T. McKelly, A. S. Arnaud, J. F. Steinmeyer, John C. Faber, M. D., Thaddeus Street, M. Laidler, E. T. Lucas, W. J. Gayer, Charles Love, Motto A. Pringle, Robert Thurster, W. Tylee, jr., John L. Dawson, H. W. Schroder, William Hayward, S. S. Solomons, D. L. McKay, C. W. Henry, B. C. Locke, W. J. Bennett, J. W. Gray, J. S. Hutchison, Theo. D. Wagner, J. S. Gibbs, P. W. Cleary, Samer S. Howell, E. A. Davis, H. B. Clarke, W. A. Pringle, J. S. Cohen, H. C. Stoll, W. A. Gibson, J. S. Yates, E. Geddings, F. A. Sawyer, C. V. Chamberlin, H. Y. Gray, E. Hogates, W. P. Knox, J. B. Seabrook, J. Dougherty, V. J. Tobias, U. St. Clair Bird, T. W. Glen, J. T. Flynn, T. Bonnell, William Murray, W. D. Pont, M. D., J. S. Drayton, E. M. Cudworth, W. L. Daggett, T. C. Sheppard, C. G. Hall, S. J. Moses, E. Frost, J. Lillard, W. B. Sprague, C. W. Grauz, And. Kroeg, B. M. Sloobel, E. M. Seahote, George S. Cook, W. Z. Guy, H. P. Fengas, E. B. Seabrook, B. D. Roper, H. Clark, J. A. Tripp, Clarence Lery, J. H. Steinmeyer, B. S. Baker, pastor St. Mary's Church, W. W. Sale, H. S. Hanes, W. E. Milligan, J. S. K. Bennett, George A. Locke, G. H. Ingraham, W. R. Sibby, Thos. Adams, J. Forbes, J. M. Screven, M. T. Bartlett, M. J. Heriot, F. W. Slender, C. H. Hillen, J. F. Filler, J. C. Diefenbeck, T. Cudigan, M. Pierce, J. M. Jandrell, C. U. Richardson, J. Richardson, T. C. Glen, B. F. Shier, M. D., G. H. Coudy, C. H. Behre, F. Puckhaber, A. H. Schwake, J. H. Teitzen, R. L. Morills, J. H. Graver, W. H. Boring, S. W. Speissegger, H. H. Due, R. S. Sprigg, P. McKinnlay, W. W. Riley, L. P. Speissegger, H. Pudigon, C. G. Ducker, J. E. Suneke, H. Jager, F. W. Eggesking, J. D. Busche, W. T. Little,</p>	Aug. 28, 1865

Dec. 28, 1865

W. Luders, H. Finck, J. Buggle, B. Gross, Wm. Horkaday, J. Schneider, F. Hertwig, A. Rockling, T. P. Fonoston, A. Belancourt, S. Hall, sr., J. B. Duval, E. Mitchell, A. Morroso, José Java, F. Darby, W. Browne, J. Decunps, W. Harrison, W. H. Harrison, W. F. Swan, H. T. Suran, W. G. Hawkins, G. S. Hacker, H. H. Bolger, E. P. Buckeiser, P. L. Guillemin, Thos. Dixon, C. F. D. Petit, Jas. G. Martin, L. V. Martin, Rev. Wm. B. Gates, chaplain to seamen, R. C. Start, O. Meizer, C. R. Cassidy, W. H. Welch, C. C. Gradick, E. Addison, M. E. Carriere, M. D., G. F. Alderson, G. E. Webber, J. Molony, J. Heddlesly, jr., J. S. Schneider, James Morrison, J. W. Johnson, Peter Blake, G. A. Bowman, W. T. Burge, W. R. Darby, William O'Brien, T. Alexander, P. Doogan, T. Cluffy, W. H. Burrell, Edward Kennedy, J. W. Darrell, T. B. Guy, F. H. Duc, J. Armstrong, E. Klein, R. Rantin, R. Meredith, James Wiley, P. Bligh, R. Hendricks, M. Kennedy, T. O'Rourke, B. McBride, James Burr, J. Chaney, J. J. Boyden, B. M. Roche, W. O. Gibson, T. W. Riggs, Robert James, M. Dowling, W. Lucas, G. De Witt, Thomas Aimes, P. Wall, W. P. Russell, Owen Kelly, C. Hart, A. G. Barton, B. Carroll, J. T. Sanders, T. E. Strother, A. L. Tobias, H. Ostjen, J. C. Bradley, M. N. Thomajon, G. W. Retit, William Meagher, G. W. Olosey, T. W. Markley, P. Dannells, J. P. Reed, B. W. O'Rourke, John Conlin, J. R. Hagen, John King, J. W. McMillan, M. C. Tharin, G. Klein, John Blake, George Dedderly, F. G. Rehkopp, J. C. W. Bichoff, T. E. Dalwick, B. F. Kreamer, William Bold, J. A. Cook, T. Gleason, James, Cannadeny, P. D. Croval, C. Amme, Jos. Lamble, James Melvin, J. P. Reacellhimer, C. J. Faust, M. D., J. M. Ainger, E. L. Henry, Mortimer Calvert, J. H. Raine, Robt. Evans, H. C. Robinson, F. Ansel, J. E. Prince, H. G. Warnhen, T. D. Corcaran, T. N. Gadsden, W. R. Butt, George H. Ginber, James Carrell, H. Carew, J. Schachte, J. B. Nixon, jr., Seth Spencer, W. J. McGilliry, T. Flynn, William O'Connor, G. A. Forlay, J. E. McManus, P. O'Brien, J. M. Mawley, W. F. Simans, W. F. Carsten, R. H. Eason, D. Motin, H. W. Hendrick, J. P. Pool, W. J. Robinson, J. O. Simons, J. T. Wells, W. D. Kennedy, John Christopher, R. H. Clark, T. B. Pohl, Jos. Marzyck, J. L. Westcott, T. O'Brien, Benjamin Heffron, J. H. Taylor, George W. Williams, William Ingraham, J. A. Duffus, A. Fitch, M. C., A. C. Kaufman, M. B. Ryan, L. L. Siddan, M. C. Connor, Louis J. Weber.

John D. Ashmore Resigned seat in United States Congress to aid rebellion

South Carolina—Continued.

Name.	Exemption under amnesty proclamation of May 29, 1865.	By whom recommended.	Date of pardon.
M. L. Bonham	Was representative in the United States Congress at the secession of South Carolina; was then a brigadier general in confederate army; afterwards a representative in the confederate Congress; was in December, 1862, elected governor, which office he held till 1864, and was again appointed brigadier general.	Provisional Governor Perry, and ordered by the President.....	Oct. 25, 1865
M. C. Butler.....	Rebel brigadier general.....	Provisional Governor Perry, and ordered by the President.....	Oct. 27, 1865
John Bratton.....	Rebel brigadier general.....	Provisional Governor Perry, and ordered by the President.....	Sept. 22, 1865
George Davis.....	Rebel attorney general.....	Provisional Governor Perry, William A. Wright, Mary E. Russel, Silas N. Martin, Jonathan Worth, governor of North Carolina, Alfred Martin, J. Shackerford, E. Murray, John G. Banman, W. S. Anderson, S. D. Wallace.	July 23, 1866
J. D. B. De Bow	Editor of De Bow's Review.....	Ex-Governor Aiken, Hon. W. Boyce, and Governor Perry.....	Aug. 29, 1865
Stephen Elliott, jr.....	Rebel brigadier general.....	Governor Perry, Major General Q. A. Gilmore, and Rev. R. Fuller.....	Nov. 4, 1865
Walter Gwynn	Rebel brigadier general. Graduated at West Point. Resigned in 1832.	Governor Perry, J. S. Gallaher, Hon. Jos. Segar, Hon. L. H. Chandler, and Geo. A. Pearre.	Oct. 3, 1865
H. J. Hartstene	Ex-commander in United States navy ..	J. P. McKinstry, captain United States navy; John E. Ward, of New York; Wm. S. De Zeug, District of Columbia.	June 16, 1866
Johnson Hagood	Rebel brigadier general.....	Governor Perry.....	Sept. 27, 1865
Duncan N. Ingraham	Ex-captain, United States navy	Rear-Admiral W. B. Shubrick, Governor Perry, and ordered by Attorney General Speed.	June 4, 1866
P. N. Lynch, D.D.....	Catholic bishop.....	M. J. Spalding, archbishop, Baltimore, Md.....	Aug. 4, 1865
J. L. Orr	Rebel senator.....	Governor Perry.....	Aug. 9, 1865
J. S. Preston	Rebel brigadier general.....	Governor Perry.....	Jan. 31, 1866
H. E. Sims	Senator, rebel congress	L. C. Shanklin, J. M. Gibbs.....	Dec. 12, 1865
George A. Trenholm	Secretary of the rebel treasury	S. P. King, Jane Petigru, Major Generals Sickles and John A. Dix, Major General Howard, General Curtis, Edwards Pierpont, esq., of New York, A. A. Long, Major General Hatch, Major General Steedman.	Oct. 25, 1866
		Citizens of Charleston, S. C.; E. Vander Host, A. B. Rose, J. K.	

Brown, E. B. Heyward, Julius D. Petsch, T. J. Wharton, M. C. Riggs, A. J. Kennedy, W. J. Whilden, T. E. Gilbert, G. Gumber, B. Dashshel, James Simpson, T. H. Hood, M. A. Pringle, A. G. Girard, George S. Cameron, A. Cudworth, J. F. Seignious, J. Woodruff, William L. Daggett, A. Drago, J. Spanier, R. Benke, C. F. B. Bremer, Felix Warley, A. A. Wright, A. McDuff, James Ryan, C. Macbeth, J. S. Riggs, Ed. Ravenel, E. Ravenel, jr., L. G. Thurston, James Thurston, P. G. Hasell, J. P. Stroecker, T. S. Bee, John E. Phillips, T. D. Wagner, J. B. Campbell, W. S. Coates, I. G. Lige, A. S. Porter, S. E. Warley, S. M. Warley, Daniel O'Leary, D. B. Bingley, Thad. Kelley, John Burns, J. O'Mara, J. M. Mulvaney, R. D. Gotters, G. V. Grow, M. McBride, John Kinney, Edwin Collins, P. Collins, A. S. Riegun, M. Hazes, John Dougherty, Dan. O'Leary, C. Trumbo, J. H. Rendall or Kendall, H. Bollmann, William Marsecker, L. F. Koessler, E. W. Klaren, N. A. Roze, D. C. Silcox, M. Gannon, J. M. Brawley, John Molony, S. M. Whitney, H. V. Baker, J. M. Baker, T. O'Brien, John Burke, Mathew Ryan, S. T. Tupper, H. Bischoff, Job Dawson, M. Von Glahan, F. Theiling, I. H. Hyer, C. L. Komahrens, John Buggle, John R. Whaley, Edward Daly, Jos. Beatty, J. J. Furlong, R. H. Selby, J. Hurst, P. P. Locke, C. R. Cassiag, W. P. Petterson, J. W. Riggs, C. Larey, M. Marks, A. U. Solley, C. B. Torley, W. White, T. E. Walker, John Commins, J. A. Armstrong, Walter Walsh, P. C. Walsh, R. H. McDowel, F. D. Walker, Robert Minniss, Adolph Nimity, L. Breddenberg, F. C. Bomer, H. Campsen, J. Reiley, Mars Hohen, William Robb, James Vidal, J. Barrett, James Bancroft, jr., C. D. Fawer, J. W. Brown, J. S. Harbeson, D. Benckhuer, W. Moran, J. P. Monaghers, C. W. Moran, M. O'Brian, E. C. Kickeby, Thomas Garetz, A. T. Porter, John V. McNanee, Edmund Dunn, A. St. Amend, A. E. S. Amend, J. Emile Stamand, F. St. Milleck, J. H. Cantwell, J. G. Kelly, H. R. Jacobs, T. W. Covert, S. W. Fisher, A. Dewill, Moses D. Hyams, James Bucanon, John Grant, Charles Lilschge, S. C. Brown, M.D., W. Meger, Pat. Moran, John Moran, T. J. Harvey, J. S. Yates, W. S. Adams, E. Y. Paine, W. B. Ryan, P. C. Guerny, R. S. Long, D. J. Townsend, Thomas Ryar, C. Love, J. W. Brown, A. Bishop, D. Canter, F. L. O'Neil, J. Canter, C. D. Owens, L. M. Horsey, W. L. Webby, E. Munston, Richard North, John G. Liege, Benjamin Ellis, J. H. Johnson, J. Smith, D. Boyle, Theo. Cordee, G. C. Schmetzer, J. W. Bahutge, A. Voegel, John Prior, R. B. Prior, James S. McKenzie, A. B. Cunningham, G. T. Prior, M. P. Parker, George C. Black, Thomas P. Black, T. C.

South Carolina—Continued.

Name.	Exemption under amnesty proclamation of May 29, 1865.	By whom recommended.	Date of pardon.
Geo. A. Trenholm—Continued.	Secretary of the rebel treasury	<p>Black, William A. Gibson, Gustavis Miller, T. Claffy, W. H. Ravene, W. S. Coats, H. F. Strachecker, H. C. Shokes, S. D. Rup, J. R. Gilles, J. F. Douglass, G. H. Guber, Hamilton Carew, A. C. Hamett, F. M. Ronan, James P. Chase, L. E. Cordray, James White, E. D. Euston, E. C. Tharin, E. C. Prince, W. W. Speissegger, F. E. Salinas, R. W. Disher, W. P. Russell, T. W. S. Speissegger, William Strong, F. J. C. Patterson, B. McBride, W. D. Burys, H. H. Debean, J. S. Cohen, E. P. Toomer, George Connor, Thomas Dixon, James Gilliland, G. A. Bownan, William H. Dawson, F. D. Pinckney, C. G. Barkmyer, John H. Steinmyer, A. Gordon, James L. Gantt, George S. Shiner, Donald D. Sams, L. F. Le Bleux, Edward Cikeckley, M. D., H. W. Kingdon, C. Gadsen Hall, W. J. McCormack, James L. Smith, Jos A. Morison, Jos. E. Thouron, H. H. Openheimer, C. P. Poppenheim, J. S. Drayton, A. J. Timmons, George Dowse, T. B. Guy, S. H. King, J. W. Evan, J. Woodruff, Nathaniel Levur, J. G. Boag, T. Mowitt, Hasell J. A. Cay, H. H. Williams, T. J. Ellis, A. F. Pennal, R. Meholens, L. Cantwell, Jos. J. Burdell, John E. Cay, A. S. Brown, A. G. Whitney, James Cantwell, Jos. Johnson, M. S. Callahan, T. P. O'Neale, F. C. Hepp, C. J. Berrie, Thomas Morris, T. H. Dewees, Clarence Levy, Adam B. Glover, W. G. Vardell, J. D. White, F. J. Dawson, Ch. Barbas, J. M. Kingman, William H. Heyward, E. H. Gadsden, C. H. West, jr., A. Caldes, T. A. Whitney, James A. Duffres, T. S. Heyward, jr., William B. Minott, John Moran, Patrick Moran, William Moran, William Aiken, John Phillips, P. Waymon, Fred'k A. Sawyer, James B. Campbell, W. W. Bennett, A. T. Porter, John E. Phillips, Jonathan Lucas, S. S. Mills, W. S. Frazer, Mrs. M. A. Frazer, Mrs. Sarah Frazer, M. E. Mills, H. C. Mills, M. Ella Mills, Stephen L. Howard, Edwin Chapman, Loughton R. Reid, Francis G. Carl, H. M. Roysff, Evur Edwards, Connel Menning, A. B. Murray, W. J. Bennett, James Welsman, Henry R. Frost, Odgen Hammond, W. M. Sage, C. W. Stiles, A. M. Mills, L. V. Baker, W. Alston, Pringle H. Hanna, W. L. Macbeth, C. A. Chisolm, Thomas Bennett,</p>	Oct. 25, 1866

C. S. Bennett, W. Morrison, J. B. Bissell, William Whaley, Julian Mitchell, A. N. Bellinger, G. W. Wiscott, Thomas S. Bee, James H. Meree, F. A. Mitchell, John Mitchell, M. D., J. B. Mitchell, R. Mitchell, A. A. Mitchell, S. M. Mitchell, C. C. Mitchell, M. M. Mitchell, C. G. Mitchell, M. W. Webb, T. L. Webb, J. L. Toomer, P. S. Postell, J. W. Toomer, H. L. Toomer, T. F. Leiby, B. Bergman, G. C. L. Schmetzer, G. Bargman, S. J. Willson, R. Selby, M. D., Benjamin Mantoree, D. Haas, J. A. Condy, J. Macbeth, Mrs. Colonel Ringgold, D. B. Gilliland, James Simpson, C. Tourgeand, Benjamin G. Heriot, T. D. Dotterer, S. H. L. Price, Henry Cohia, W. L. Daggett, E. Webster Wesley, P. W. McGee, Asher D. Cohen, George C. Black, John K. Burie, John Ashbust, W. C. Sneffield, John W. Lewis, Jacob S. Schrimmer, B. W. Warren, B. W. Warren, Jr., J. C. R. Taylor, J. W. Browning, W. K. Browne, John Miller, R. M. Gordon, W. J. Masratt, H. R. Morris, C. E. Chichester, William J. Middleton, E. M. Cudworth, F. O. Rourke, R. P. Coburn, S. S. Hassell, A. Raoul, E. Grinke, Theo. C. Thann, Thomas J. Mellard, Charles A. Calso, M. C. Conner, P. A. Walsh, T. Ladson Webb, F. B. Oakes, A. M. Moreland, Samuel S. Hewett, Simon Lucas, Fred. Connor, C. W. Henry, William Gregg, E. Scott Miles, John J. Boyden, Robert Thurston, J. P. Ruelhimer, John McC. Thann.

Citizens of the State of Georgia: E. Starnes, John P. King, George Schley, Thomas S. Metwef, A. H. Warren, D. F. Fleming, H. H. Hickman, John S. Bones, James Hope, Henry Daley, J. M. Smythe, W. Stevenson, George D. Butt, A. P. Boggs, J. J. Robertson, John Phiney, J. Danforth, E. Mustin, Edward Barry, T. W. Battey, L. Cohn, A. H. Cohen, Alfred Baker, T. D. Caswell, A. Gould, Nath. Scales, J. A. Simmons, J. C. Fargo, W. A. Ramsey, B. F. Hall, D. L. Adams, W. S. Carr, L. B. Nobbin, W. H. Crane, John Craig, T. G. Barrett, T. Wright, James Brown, W. H. Potter, Charles Baker, Charles Rabb, N. K. Butler, James T. Pace, W. M. Wilson, Thos. Tobin, F. R. Simons, Charlie B. Day, C. B. Martin, R. G. Gloom, J. R. Cook, George W. Broadhurst, P. Clayton, W. R. McCay, Joseph H. Day, G. F. Curtis, Charles Hall, N. W. Jackson, H. B. Adams, C. Catlin, L. S. Catlin, John Kinney, F. S. Barker, George R. Crumps, R. B. Bradshaw, W. S. Chandler, W. C. Jones, P. Werriman, E. Burtin, John J. Cohen, George W. Ferry, Samuel A. Verdery, John T. Miller, Joseph M. Kinchley, H. W. Hilliard, Mordecai Hyams, A. C. Force, W. W. Alexander, John Davis, J. Henry, E. B. Long, McCord Walton, W. J. Dibble, J. A. Ansley, Charles K.

South Carolina—Continued.

Name.	Exemption under amnesty proclamation of May 29, 1865.	By whom recommended.	Date of pardon.
Geo. A. Trenholm—Continued.	Secretary of the rebel treasury	<p>Carter, O. E. Smith, W. J. Blair, M. Wilkinson, George A. Cates, John Nelson, J. D. A. Murphy, James E. Cook, G. W. Turner, Geo. H. Hope, W. H. Tult, A. Stephens, George Robinson, P. A. Scrimpton, W. H. Barrett, James L. Maude, John D. Ramey, Charles McClareu, Thomas Richards, C. A. Williams, W. E. Jackson, John W. Story, H. F. Russell, Thomas J. Jennings, Henry Myers, James Mills, John H. Tripple, Peter Cretz, Henry Moore, Flem Gardner, James T. Paterson, John W. Walker, W. McLaughlin, H. W. Carr, E. A. Platt, J. B. Platt, A. B. Plumb, N. S. Morse, W. Graham, John Setzer, A. P. Bignon, Frank Dunbar, James Gardner, George Adam, Joseph E. Marshall, William K. Huse, John L. Stockton, Thomas A. Bones, James W. Moore, Lem. A. Piequest, L. Grambill, M. J. O'Brien, B. S. Ganba, H. B. Plant, J. W. Wilson, C. T. Plank, G. F. Ludwig, Edward J. Hatcher, H. L. Leon, W. B. Britton, J. J. Biscoe, S. C. Mustin, A. P. Robertson, H. B. Kemme, B. S. Pelot, J. T. Shicut, S. A. Atkinson, J. J. Martin, Nat. A. Cohen, H. S. Kenme, J. Dennis, Isaac Levy, R. C. Easterburg, J. Harteling, L. J. Miller, Charles Kanapaux, William V. Ker, J. R. B. Best, B. Morris, Thomas R. Rhodes, W. P. Rhodes, John W. Walker, T. A. H. Meyer, Herbert Stalberg, J. C. McDonald, C. Williams, S. Gutman, J. T. Bothwell, C. H. Howard, W. P. Bottom, C. A. Latuzan, James A. Dortie, B. F. Yutt, M. Gallagher, J. A. Jones, F. A. Brahe, C. F. Lewis, C. D. Brahe, J. W. Meredith, S. H. Crump, W. J. Mealing, A. K. Goodyear, Joseph Davis, A. Bleakley, W. J. Jones, M. D., William W. Lawrence, James L. Goer, C. C. Pritchard, M. D., James A. Gray, George H. Crump, R. Campbell, Wm. Glover, st., S. P. Whitehead, J. A. Van Winkle, William M. Martin, jr., M. S. Hanskel, Joseph P. Carr, John H. Coleman, J. C. Green, J. C. Dasoron, L. D. Sallerstedt, Josiah Sibley, J. K. Evans, H. S. Healing, E. W. Doughty, Andrew Stuart, W. H. Doughty, C. W. Doughty, S. D. Linton, A. C. Ives, H. C. Bryson, H. E. Clarke, James W. Walker, James T. Gardiner, T. H. Stafford, J. B. Moore, S. W. Oliver, James B. Walker.</p>	Oct. 25, 1865

GEORGIA.

Clifford Anderson.....	Member of rebel congress.....	Governor of Georgia.....	Nov. 8, 1866
Joseph E. Brown.....	Rebel governor of Georgia.....	Judge Erskine, Isaac Scott, Samuel Milligan, Governor Johnson	Sept. 6, 1865
Richard M. Cuyler.....	Ex-United States navy officer.....	Judge Wayne and the Attorney General.....	Sept. 16, 1865
J. H. Echols.....	Member of rebel congress.....	The Attorney General, Governor of Georgia, J. H. McWhorter, W. T. Hoard, George F. Plutt, Edward Young, Thomas B. Moss.	Oct. 19, 1863
Thomas M. Gorman.....	Member of rebel congress.....	The Attorney General, Governor of Georgia.....	April 26, 1866
L. J. Gartrell.....	Rebel brigadier general.....	General Steedman, Governor of Georgia, John D. Stevenson, John M. Duncan.	Oct. 13, 1865
H. W. Hilliard.....	Resigned his seat in United States Congress.....	Governor of Georgia.....	Sept. 14, 1865
H. R. Jackson.....	Rebel brigadier general.....	The Attorney General, Hon. Joshua Hill, W. R. Smith, Hon. H. L. Dawes, Jas. L. Seward, Governor of Georgia, Hon. James M. Wayne.	Sept. 7, 1865
Jno. J. Jones.....	Resigned his seat in United States Congress.....	The Attorney General and Governor of Georgia.....	Oct. 18, 1866
L. McLaws.....	Graduate of West Point and rebel brigadier general.....	General Tillson Davis and Governor of Georgia.....	Oct. 18, 1866
E. A. Nisbet.....	Member of rebel congress.....	Governor of Georgia.....	Aug. 24, 1866
Wm. E. Smith.....	do.....	Governor of Georgia.....	Nov. 8, 1866
Otho R. Singleton.....	do.....	Governor of Georgia.....	Sept. 25, 1865
J. W. H. Underwood.....	Resigned his seat in United States Congress.....	Governor of Georgia and the Attorney General.....	Sept. 29, 1865
Henry C. Wayne.....	Resigned his commission in United States army.....	Governor of Georgia.....	July 14, 1865
James Jackson.....	Resigned his seat in United States Congress.....	Governor of Georgia, Hon. R. Johnson, Hon. James Guthrie, Hon. W. Saulsbury, Hon. E. Cowan, Hon. C. R. Buckalew, Hon. Thomas A. Hendricks, Hon. G. Davis, Hon. G. R. Riddle.	July 26, 1866

FLORIDA.

J. P. Anderson.....	Rebel major general.....	Governor Marvin.....	Dec. 1, 1866
A. K. Allison.....	Rebel governor of Florida.....	Governor Marvin.....	Oct. 19, 1865
James M. Baker.....	Rebel member of congress.....	Louis A. Kane, Ralph P. Buxton.....	Sept. 14, 1865
W. G. M. Davis.....	Rebel brigadier general.....	Russell Houston, F. M. McLeod, J. Rogers.....	June 9, 1866
J. J. Finley.....	do.....	Governor Marvin, J. Whouney, E. D. Morgan.....	Nov. 27, 1866
A. E. Maxwell.....	Rebel senator.....		July 23, 1866

Florida—Continued.

Name.	Exemption under amnesty proclamation of May 29, 1865.	By whom recommended.	Date of pardon.
J. P. Sanderson.....	Rebel member of congress	N. Usher, district attorney; E. Houston, J. Myles Baker, Thomas Baltyell, D. P. Hogan, J. B. Galbraith, D. S. Walter, Benj. A. Putnam, James C. Wilson, W. R. Wilson, A. B. Joyce, W. K. Bead, E. C. Simkins, James H. Bull, W. Call, Ph. Dyalinski, J. M. Harrison, E. G. Vernon, S. P. Richardson, A. L. Holleymore, Rufus Dickinson, J. F. Webb, W. W. Wilkinson, Samuel B. Thomas, D. G. Livingston, J. J. Daniels, Agnes Patterson, E. H. Richards, D. P. Livingston, A. McDonald, G. M. Brunson, James Rogers, J. C. McGehee, Benj. F. Whitman, J. C. Buchanan, Wm. Caulk, J. M. Daniel, L. J. Flemmings, Wm. Graltie, F. Livingston, R. R. Rushling, H. H. Horge, Robert Gamble, jr., B. F. Allen, A. H. Cole, J. D. Wescott, Charles H. Sparhawk, Wm. B. Ross, S. L. Nibbick, Jacob Barklime, E. G. Cooper, John C. Relot, L. A. Folsom, D. G. Taylor, C. Z. Stubbs, A. Guyer, Thos. L. Whitlock, B. T. Wardler, J. H. McGinnis, A. Livingston, F. F. L. Engle, A. A. N. Ewonar, Wm. H. Johnson, W. P. Mosely, Walter Keyey, Simon Katerberg, J. V. Garvie, W. G. Brown, John Noscott, Wm. E. Collier, J. B. Panamore, John M. Beggs, L. F. Thompson, John L. Engle, P. B. Daniel, E. Evelette, Joseph Finigan.	Oct. 21, 1865

MISSOURI.

C. W. Bell	Member of rebel congress.....	John A. Gilmer, Hon. Edward Bates, and the Attorney General	Oct. 24, 1865
John B. Clark.....	do.....	The Attorney General, T. S. Glover, Hon. Edward Bates, General Sheridan, and Governor of Louisiana.	Dec. 9, 1865
John B. Clarke, jr	Rebel brigadier general.....	General Pope	Nov. 4, 1865
D. M. Frost	do.....	The Attorney General, Hon. John Hogan, Jos. Fallon, Edward Walsh, M. L. Linton, General W. T. Harney.	Oct. 23, 1865
R. A. Hatcher	Member of rebel congress.....	The Attorney General, R. H. Marr, W. S. Mosby, T. T. Gannt, Hon. T. E. Noel.	Oct. 31, 1866
T. L. Sneed	do.....	The Attorney General.....	April 2, 1866

George G. Vest..... F. M. Cockrell.....	.....do..... Rebel brigadier general.....	General Roussau, A. M. Stout, J. T. Boyle, George D. Prentice..... Generals F. P. Blair, Hubbard, Osterhaus, Governor of Missouri, Jas. R. McCormick, B. Able, T. T. Crittenden, George Knapp, L. V. Bogy.	Sept. 22, 1865 Mar. 31, 1866
TENNESSEE.			
S. R. Anderson..... J. D. C. Atkins.....	Rebel major general..... Member of rebel congress.....	P. W. Maxey and M. Burns..... Isaac R. Hawkins, Hon. John W. Leftwick, M. C., R. E. Dunlap, and A. S. Colyer.	Dec. 19, 1865 Sept. 21, 1866
A. S. Colyar..... R. L. Caruthers..... James McCullum..... George B. Hodge..... M. A. Haynes.....	.....do..... .....do..... .....do..... .....do..... Ex-United States army.....	Governor Brownlow..... Governor Brownlow, R. S. Saunders, and A. Wright..... Governor Brownlow and Brevet Major General P. W. Johnson..... Governor Brownlow and Hon. Edward Cooper. Petitioner graduated at West Point in 1838; served in the Florida war as 2d lieutenant of artillery till September 30, 1839, when his resignation was accepted by the President of the United States; served as lieutenant colonel in the provincial army of Tennessee in 1861.	Sept. 22, 1865 Aug. 20, 1866 Sept. 30, 1865 Sept. 22, 1865 Aug. 12, 1865
G. A. Henry.....	Rebel senator.....	Cave Johnson, Russell Houston, Hon. James Speed, Hon. N. G. Tay- lor, H. J. Stiles, W. H. Peffer, U. S. A., Colonel Pennybacker, E. B. Harkins, B. Stewart, J. G. Hornberger, and J. O. Shackelford.	Nov. 27, 1866
George H. Howard.....	United States Naval Academy.....	Samuel Milligan. Resigned from United States Naval Academy to enter the confederate service.	Nov. 16, 1865
John P. Murray..... A. E. Jackson..... Thomas Meneses..... George Maney..... J. B. Palmer.....	Member of rebel congress..... Rebel brigadier general..... Member of rebel congress..... Rebel brigadier general..... .....do.....	Governor Peirpoint..... .....do..... R. W. Johnson and Major General George H. Thomas..... A. A. Lane, A. Burger, George W. Howse, W. H. Meconnekin, Edward L. Jordan, James M. Tompkins, Charles Ready, J. W. Loughay, J. F. Nelson, deputy sheriff, Hon. Edward Cooper, D. B. Thomas, N. Y. Elliott, Wm. Barton, W. H. Grinnest, J. G. Palmer, and W. Spencer.	June 20, 1865 Nov. 16, 1865 Sept. 19, 1865 June 13, 1865 Oct. 27, 1865
Gideon J. Pillow.....	Rebel brigadier general.....	Governor Brownlow, Mrs. Aaron V. Brown, and J. B. Pillow.....	Aug. 28, 1865
TEXAS.			
A. M. Branch.....	Member of rebel congress.....	Governor of Texas, John A. Baker, S. D. Hay, D. S. Norton, and A. R. Norton.	June 6, 1866

Texas—Continued.

Name.	Exemption under amnesty proclamation of May 29, 1865.	By whom recommended.	Date of pardon.
M. D. Ector	Rebel brigadier general.....	Lieutenant General U. S. Grant and John Hancock.....	Aug. 8, 1866
Peter M. Gray	Member of rebel congress.....	Governor of Texas, Hon. John Hancock, General C. A. Ancelet, and Hon. E. M. Pease.	Nov. 1, 1866
Thomas Harrison	Rebel brigadier general.....	Governor of Texas, Major General C. C. Andrews, Generals Gordon Granger, P. H. Sheridan, and Judge Miller.	Mar. 29, 1866
James E. Harrison	do.....	Governor of Texas, Judge Miller, Generals Granger, Sheridan, and Andrews.	Mar. 29, 1866
E. G. Huston	Rebel commissioner.....	Governor Hamilton, William E. Jones, Thomas H. Stribling, and J. A. Paschal.	April 30, 1865
C. C. Herbert	Member of rebel congress.....	Ex-Governor Pease, Hon. John Hancock, and Hon. Geo. W. Paschal....	Sept. 20, 1865
Albert M. Lea.....	Graduate of West Point	Generals Wright and Dent, and C. H. Lamard	Sept. 20, 1865
J. S. Rose	Rebel brigadier general.....	Governor Hamilton, Judge Paschal, Hon. E. M. Pease, and Governor J. W. Throckmorton.	Oct. 22, 1866
F. S. Stockdale	Rebel lieutenant governor.....	Governor of Texas, Hon. E. Hise, Hon. A. Harding, Hon. L. S. Trimble, Hon. G. S. Shanklin, and Hon. G. Davis.	Dec. 7, 1866
Leon Smith	Commodore in the rebel navy	W. M. Stewart, J. M. McDougal, Hon. Reverdy Johnson, Hon. Alexander Ramsey, Hon. A. H. Cragin, Hon. L. P. Poland, D. C. McKuer, Richard Yates, J. W. Henderson, and John Hancock.	May 21, 1866

LOUISIANA.

J. L. Brent	Rebel brigadier general.....	Frederick F. Low, governor of California, J. W. Satterwhite, Phineas Banning, Ramon J. Hill, M. C. Suttle, W. H. Peterson, E. C. Parish, J. N. Goodwin, delegate from Arizona, A. Meltemberger, A. P. Field, W. Mithosias, J. M. Courtney, E. T. Parker, William Howard.	Mar. 20, 1866
C. M. Conrad	Rebel member of congress.....	Wm. L. Hodge, Governor Wells.....	Aug. 20, 1866
Wm. H. Chase	Resigned United States army in 1856. Never in rebel service.	Wm. M. Dally, James B. Sullivan, naval officer, New Orleans	Oct. 6, 1866
R. L. Gibson	Rebel brigadier general.....	Governor Wells, L. R. Marshall	Sept. 25, 1866
George W. Gregor.....	Blockade-runner	Governor Wells	Feb. 10, 1866

W. W. Hunter	Ex-lieutenant United States navy	S. M. Johnson, Governor Wells	Dec. 13, 1866
P. O. Herbert	Rebel brigadier general	George H. Thomas, brigadier general, U. S. army, Brigadier General G. Granger	Aug. 18, 1866
T. M. Jones	Rebel major general	Governor Wells and United States marshal	May 2, 1866
Harvey T. Hays	Rebel member of congress	Governor Wells, General Canby	Sept. 30, 1866
Henry B. Kelley	Ex-United States army	Thomas Hoffman, Governor Wells, L. E. Forstutt, J. Burnside, John S. Pike, Thomas Cottman	Mar. 13, 1866
D. F. Henner	Rebel member of congress	George W. Morgan, L. H. Sherly, Governor Wells	Oct. 2, 1866
P. H. Luckett	Graduate of West Point	J. Hubley Ashton, assistant attorney general United States, Governor Sharkey, Governor Wells	Oct. 24, 1866
Thomas McLellan	Privateering	United States consul at Havana, Attorney General Speed	Oct. 15, 1866
Win. R. Peck	Rebel brigadier general	Governor Wells, Admiral Shubrick	Oct. 13, 1865
E. G. Phelps	Blockade-runner	Ordered by the President	Oct. 30, 1865
L. Rousseau	Ex-captain United States navy, resigned and entered rebel service	R. McClelland. Ordered by Attorney General Speed	Oct. 19, 1865
Pierre Soule	Agent for Confederate States in Europe	Hon. R. J. Walker, Governor Sharkey, John Duncan, of Mississippi, Governor Wells. Ordered by Attorney General Speed	Dec. 28, 1865
Thomas J. Semmes	Rebel member of congress	W. N. Bartlett, A. P. Field, J. Q. A. Fellow, Governor Wells, George S. Dennison, A. Miltenberger, B. L. Lynch, Governor Hahn. Ordered by the President	July 19, 1865
Edward Sparrow	Rebel senator	J. R. Maltby, Major General P. H. Sheridan, Governor Wells, Edward Sparrow, C. Rosebun	May 11, 1866
Allen Thomas	Rebel brigadier general		
Zebulon York	Rebel brigadier general		

VIRGINIA.

P. H. Aylett	Attorney of Confederate States, eastern district of Virginia	Governor Peirpoint, Gailes Palmer, Rev. W. Hughes, Francis J. Smith	July 3, 1865
Charles Brewer	Surgeon in rebel service	John Wilson	June 12, 1865
Alexander R. Boteler	Rebel member of congress	Governor Peirpoint, S. P. Lee, United States navy, Jos. R. Anderson	Aug. 20, 1866
John M. Brooke	Rebel member of congress	Governor Peirpoint, L. H. Chandley, John Lyons	Aug. 15, 1866
John R. Chambliss	Naval service Confederate States		Oct. 16, 1865
James W. Cooke	Lieutenant confederate vessel Stonewall	James M. Cooper, United States navy, John Waulers, John W. Simons, Peter Rowe, Wm. R. Tuttle, John J. Port, James Stevens, Garrett Van Horn, Wm. W. Edwards, Wm. Muir, David Williams, John Van Horn, jr., Jacob Van Horn, Daniel Welsh, David Bush, Gar-	Aug. 13, 1866
R. R. Carter	Rebel navy		Aug. 22, 1866
Landon Campbell			April 30, 1866

Virginia—Continued.

Name.	Exemption under amnesty proclamation of May 29, 1865.	By whom recommended.	Date of pardon.
London Campbell—Continued.		rett Bush, Jasper P. Britton, Abin Britton, George Minugh, James R. Minugh, John Alker, John A. Post, John Post, John A. Boulton, A. H. Hurdulagt.	
John Debee	Paymaster in rebel service.	D. G. Farragut	Nov. 7, 1865
T. T. Fauntheroy	Resigned commission in U. S. army		Oct. 5, 1865
A. S. Garnett	Ex-surgeon United States navy, resigned and entered the rebel service.		Oct. 21, 1865
W. D. Harrison	Ex-surgeon United States navy. Confederate navy.	Governor Peirpoint	Oct. 21, 1865
J. L. Henderson	Ex-commander United States navy.	Governor Peirpoint	Aug. 1, 1866
J. D. Halyburton	Resigned United States judgeship, and occupied similar office under Confederate government.	Governor Peirpoint, John M. Botts, W. H. Lyons, John A. Meredith, H. W. Thomas, Gustavus A. Myers, R. R. Howison, John H. Gilmer, N. A. Sturdivant, J. H. Sands, Thomas J. Evans, Andrew Johnson, John O. Steger, Henry Husnall, James Lyons, Wm. Greer, R. T. Daniel, I. P. Surgerst, Wm. J. Zoomwell, John L. C. Denner, B. H. Bevey, L. S. Hall, J. W. Young, Alexander H. Sands, A. B. Guigons, Marmaduke Johnson, John S. Caskie, Robert H. Fuller, and General L. P. Graham.	Nov. 23, 1866
Edward Johnson	Rebel general	Ex-Attorney General James Speed	Nov. 24, 1866
R. W. Jeffrey	Ex-surgeon United States navy		Nov. 13, 1866
D. C. De Jarrette	Rebel member of congress	Governor Peirpoint, M. A. Pruyn, and B. M. P. Smith	Sept. 20, 1865
Jas. L. Kempler	Major general Confederate States army	Governor Peirpoint and Charles Palmer	Oct. 23, 1865
W. F. Lynch	Resigned from United States army; rebel colonel.	Governor Peirpoint	June 11, 1865
J. R. C. Lewis			Oct. 23, 1865
E. G. Lee	Rebel brigadier general.	Governor Peirpoint, Ex-Attorney General Speed, and S. P. Lee, U. S. N.	July 26, 1866
James Lyons	Rebel member of congress	Governor Peirpoint and United States attorney	Mar. 4, 1866
H. H. Lewis	Formerly lieutenant United States navy; resigned for rebel service.	Governor Peirpoint	Mar. 24, 1866
Wm. Leigh	Ex-United States navy; resigned in 1852	Governor Peirpoint and S. P. Lee, U. S. N.	Sept. 29, 1865
P. T. Moore	Rebel brigadier general		June 14, 1865
S. P. Moore	Ex-surgeon United States army	Surgeon General Barnes	Dec. 1, 1866
W. H. McFarland	Rebel member of congress	Governor Peirpoint	Sept. 11, 1865

Fayette McMullen	Rebel member of congress	Governor Peirpoint and General Mulford	Sept. 21, 1865
Robert Ould	Ex-United States district att'y, D. C.	Governor Peirpoint	Oct. 30, 1865
Hugh N. Page	Rebel captain, United States navy	Vice-Admiral D. G. Farragut	April 23, 1866
R. L. Page	Ex-United States navy; rebel brig. gen.	General Thomas Schoeff and Admiral Lee	Aug. 22, 1866
R. B. Pegram	Ex-United States navy	Governor Peirpoint and General Winfield Scott	Oct. 21, 1865
W. R. Staples	Rebel member of congress	Governor Peirpoint and L. H. Chandler, United States district attorney	Nov. 11, 1865
Geo. P. Scarborough	Resigned judgeship in Court of Claims.	Governor Peirpoint and Edward D. Neill	Nov. 19, 1866
H. B. Taylor	Ex-major United States; member of congress.	John D. Defrees and Richard Wallach	Aug. 10, 1866
J. M. St. John	Rebel brigadier general	Governor Peirpoint and Alexander Rives	June 19, 1865
Thomas S. Gholson	Rebel member of congress	Governor Peirpoint, E. D. Saunders, T. S. Johnson, John Lyon, T. B. Bethea, Thos. Wallace, and James H. Cox.	Sept. 8, 1865
Chas. E. Thorburn	Ex-United States navy; colonel in rebel army.	Admirals Farragut and Porter, John W. Chanler, and Hamilton Ward, member of Congress 27th district of New York.	June 4, 1866
Wm. C. Wickham	Brigadier general; rebel member of congress.	John M. Botts	June 24, 1865
W. C. Whittle	} Junior officers on rebel privateer She- nandoah.	} Senators Cowan, Johnson, and Davis, Hon. H. J. Raymond, H. D. Foster, William F. Johnson, Dean Richmond, J. P. Comegys, T. A. Hendricks, Governor Marvin, A. H. Stephens, Wm. H. B. Custis, and J. R. Franklin.	Sept. 20, 1866
S. S. Lee			
A. O. Browne			
J. T. Mason			

MARYLAND.

Frederick Chatard	Commander in the rebel navy	Major General James A. Hardie, John M. Nalley, and the Attorney General.	Dec. 1, 1866
Bradley T. Johnson	Rebel brigadier general.	R. M. Saunders, Governor Holden, of North Carolina, and W. H. Bailey.	Nov. 1, 1866
George H. Stuart	Graduate of West Point, and rebel major general.	Lieutenant General Grant, General Charles G. Halpine, General A. J. Perry, and the Attorney General.	Nov. 26, 1866

DISTRICT OF COLUMBIA.

John C. Ames	Left a loyal district	Ordered by the President	June 16, 1866
Jeremiah Boyd	do.	Mayor of Washington	Nov. 9, 1865
Lloyd J. Beall	do.	General Grant and Mayor of Georgetown	July 6, 1866
Richard S. Cox	do.	Hon. W. Hunter and E. C. Carrington	May 31, 1865

District of Columbia—Continued.

Name.	Exemption under amnesty proclamation of May 29, 1865.	By whom recommended.	Date of pardon.
E. H. Cummins.....	Left a loyal district.....	Mayor of Georgetown.....	Sept. 18, 1865
J. R. Crockwell.....	do.....	Mayor Wallach and Nathaniel Wilson.....	July 15, 1865
D. J. Castleman.....	do.....	E. C. Carrington and J. H. Bradley.....	June 29, 1865
W. D. Cassin.....	do.....	Mayor Wallach and J. Hughes.....	July 11, 1865
J. Calvert.....	do.....	Mayor Wallach.....	Aug. 2, 1865
Robert Geddes.....	do.....	Mayor Wallach.....	Aug. 2, 1865
William A. Gordon, jr.....	do.....	Hon. W. Hunter and Mayor Addison.....	July 5, 1865
John F. Hickey.....	do.....	Mayor Wallach and W. Hickey.....	Aug. 8, 1865
E. P. Hickey.....	do.....	Mayor Wallach and W. Hickey.....	July 22, 1865
C. H. Holmead.....	do.....	Mayor Wallach.....	July 22, 1865
Samuel Lee.....	do.....	Mayor Wallach.....	Aug. 2, 1866
Thomas F. Maury.....	do.....	Mayor Wallach and W. D. Callan, William Tudge and G. F. Gulick.....	Oct. 2, 1865
Albert E. Matthews.....	do.....	E. C. Carrington and Louis McLain.....	Nov. 15, 1865
W. D. Pearce.....	do.....	Mayor Wallach and J. J. Johnson.....	Aug. 14, 1865
J. W. Pearce.....	do.....	Mayor Addison.....	Nov. 14, 1865
A. Roane.....	do.....	Hon. W. Hunter.....	July 15, 1865
George D. Spencer.....	do.....	Mayor Wallach.....	Oct. 29, 1865
W. H. Thomas.....	do.....	Mayor Wallach.....	July 6, 1866
W. P. Young.....	do.....	Mayor Wallach.....	Aug. 29, 1865
C. S. Wallach.....	do.....	Mayor Wallach.....	Sept. 12, 1865
John C. Whitwell.....	do.....	Mayor Wallach.....	Feb. 13, 1866
		Mayor Wallach and E. C. Carrington, United States attorney.....	Aug. 2, 1865

WEST VIRGINIA.

A. T. Caperton.....	Rebel senator.....	Governor of West Virginia, Hon. James Guthrie, C. L. Mosby, J. J. Jackson, jr., W. H. Edwards, B. H. Smith, William Smith, B. B. Hutchison, G. Evans, Jos. Ellis, A. G. Mickle, C. Woodrum, W. H. Burger, E. Mickle, M. Taylor, Charles Garten, John H. Dunn, Joel Barton, Vincent Swinney, and the Attorney General. The Attorney General, Hon. Joshua Hill, J. K. Davidson, Governor Peirpoint, Hon. Joseph Segar, Alex. Rives, Hon. A. H. H. Stuart.	Aug. 7, 1865
John Echols.....	Rebel brigadier general.....		Nov. 4, 1865

Charles J Faulkner.....	Rebel minister to France	General Meade, Hon. Richard Parker, J. W. Flood, W. D. Christian, and Colonel H. Peale.	June 26, 1865
Alex. C. Jones	Rebel brigadier general	NOTE.—Mr. Lincoln promised Mr. Faulkner a full and free pardon if he would come within the United States lines and take the oath. Mr. Faulkner never received the letter from the President, and consequently was not pardoned by him. The Attorney General and Hon. J. J. Jackson..... John T. Harris, Governor of West Virginia, Judge Jackson, Hon. C. Hubbard, and C. S. Lewis. Hon. N. Harrison and the Attorney General..... Hon. N. Harrison, S. A. Miller, B. H. Smith, Isaac Smith, George W. Summers, E. W. Newton, and John B. Smith. The Attorney General and Governor Pierpont.....	Aug. 15, 1865
Robert Johnson.....	Member of rebel congress.....		Sept. 20, 1865
James T. Lockridge.....	do.....		Aug. 29, 1865
S. A. Miller.....	do.....		Aug. 17, 1866
Charles W. Russell.....	do.....		Oct. 6, 1866
Jas. B. Washington	Resigned from West Point.....		

NORTH CAROLINA.

A. H. Arrington.....	Member rebel congress	Governor Holden.....	Oct. 14, 1865
Thomas S. Ashe	Member rebel congress	Governor Holden and Joseph H. Wilson	Oct. 14, 1865
Rufus Barringer.....	Rebel brigadier general.....	Governor Holden, C. E. Wilhesed, General Schoepf, Wash. P. Maiey.....	Oct. 26, 1865
William R. Cox	Rebel brigadier general.....	Governor Worth, Governor Holden, General O. O. Howard, General E. Whittlesey.	May 11, 1866
William T. Dortch.....	Rebel senator.....	Governor Holden recommends rejection of the pardon; B. F. Moore.	June 18, 1865
Bryan Grimes	Rebel major general.....	General O. O. Howard, Reverdy Johnson, Robert P. Dick, G. W. Brooks, R. S. Donnell, John Pool, Lewis Thompson.	June 26, 1866
Landon C. Haynes	Rebel senator.....	R. N. Pearson, Governor Holden, Judge Fowle.....	June 11, 1866
Bradley T. Johnson.....	Rebel brigadier general.....	Governor Holden, R. N. Saunders, E. G. Reade, H. J. Schley.....	Jan. 13, 1866
		Members of the Senate and House of Commons General Assembly of North Carolina: John D. Stanford, D. A. Covington, W. Harris, Thomas J. Faison, J. E. McEncher, J. L. Eure, Benjamin Aycock, C. L. Haynes, Thomas Black, B. F. Bullock, Isaac N. Saunders, J. Keener, T. E. Shober, M. Y. Arundell, Richard G. Cooper, John H. Howard, Thomas Settle, E. J. Warren, W. P. Bynum, A. D. McLean, L. S. Gash, R. H. Garner, A. J. Jones, James L. Morehead, James A. Watson, Charles Larham, D. D. Feabee, E. D. Hall, George Howard, John D. Whifel, Gills Leitch, T. J. Ritchford, T. A. Donohoe, C. S. Winstead, H. G. Williams, Timothy Morgan, J. N. Leach, D. A. Boyd, J. M. Isbel, W. D. Jones, L. W. Gorrell, M. L. Wiggins,	

North Carolina—Continued.

Name.	Exemption under amnesty proclamation of May 29, 1865.	By whom recommended.	Date of pardon.
Bradley T. Johnson— Continued.	Rebel brigadier general.....	Charles McClees, John Pool, A. C. Cowles, W. A. Graham, Joshua T. Jones, A. N. Boyle, S. H. Phillips, A. J. Baxter, Duncan Shaw, Alex. R. Smith, J. W. Burton, A. J. Dozams, A. Niven, John W. Cameron, Ephraim Leigh, Tilman Farrow, J. Edwin Moore, Wm. H. Lee, M. A. Caldwell, James A. Houston, Roy McNair, John H. McEachem, Kenneth Thigpen, J. H. Wynan, J. J. Foster, James W. Newsom, Jesse Flythe, J. M. Hutchinson, S. S. Harrison, B. Hodnet, William Stelly, J. Holderly, A. McKay, P. Murphy, J. C. Williams, Robert H. Cowan, James H. Everett, Jona. Scull, Thomas J. Judkins, N. W. Arrington, W. N. H. Smith, J. W. Gidney, John R. Logan, W. C. Matthews, W. M. Black, E. W. Sellowby, Will A. Jenkins, G. S. Luke, M. E. Manly, Daniel Q. Russell, jr., Jesse Marler, Thomas S. Kenan, S. W. Chadwick, L. J. Lucas, David Cox, J. J. Burgess, Wm. H. Barrows, W. H. Wheaton, H. Joyner, James A. Moore, Phineas Horton, F. G. Simmons, W. F. Craig, R. B. Paschal, E. B. Lyon, R. W. Allison, M. L. Holmes, W. H. Junkins, Rufus K. Ferrell, J. McGuire, Lewis Thompson.	June 19, 1865 Oct. 16, 1865 June 18, 1866
J. M. Leach..... Richard B. Lee..... James R. McLean.....	Member rebel congress..... Lieutenant colonel rebel army..... Member rebel congress.....	S. P. Lee, United States navy..... Governor Holden, John A. Gilmer, E. J. Reed, John Pool, Jonathan Worth, G. W. Brooks.	June 19, 1865 Oct. 16, 1865 June 18, 1866
Thomas D. McDowell..... J. G. Ramsy..... M. W. Ransom..... A. M. Scales.....	Member rebel congress..... Member rebel congress..... Rebel brigadier general..... Rebel brigadier general.....	Governor Holden, Joseph R. Hawley..... Governor Holden..... Governor Holden, John H. Wheeler..... Governor Holden, Robert C. Dick, Thomas Settle, John A. Gilmore, G. W. Brooks, M. S. Starbuck, Jonathan Worth.	Oct. 14, 1865 July 5, 1865 Dec. 13, 1866 June 18, 1866
A. W. Venable.....	Member rebel congress.....	Governor Holden.....	Aug. 23, 1866

MISSISSIPPI.

A. G. Brown	Ex-United States Senate ; rebel senator	Hons. W. Yerger, Robert J. Walker and the Attorney General	Oct. 1, 1866
William S. Barry	Member rebel prov. congress	Attorney General	Sept. 22, 1865
A. M. Clayton	Member rebel prov. congress and rebel judge.	J. Netherland, R. F. Ferguson. Lieutenant Colonel Cameron, U. S. A., H. G. Smith, J. E. Merriman, A. P. Burditt, R. Hough, B. Bowling, F. S. Richards, J. W. Leftwich, P. B. Glenn, Provisional Governor Sharkey, and Hon. R. J. Walker.	July 29, 1865
H. C. Chambers	Member rebel congress	Provisional Governor Sharkey	Sept. 22, 1865
Henry F. Ellett	Member rebel convention	Provisional Governor Sharkey and attorney general	Aug. 10, 1865
J. G. French	Graduate of West Point and rebel brigadier general.	Earnestly recommended by General Grant	Jan. 3, 1867
N. H. Harris	Rebel brigadier general	Provisional Governor Sharkey and attorney general	Oct. 19, 1865
James F. Harrison	Member rebel prov. congress	Attorney general, W. T. Withers, A. Murdock, T. D. Shackelford, L. A. Ragsdale, G. A. Sykes, H. L. Jarnagin, J. Blevins, J. Cochran, Percy Walker, J. S. Pugh, L. P. Walker, T. Reavis, D. C. Anderson, L. N. Baldwin, W. H. Martin, G. G. Butler, A. H. Peck, F. G. Wood, C. B. Dana, W. P. Hughes, A. J. Lewis, R. H. S. Martin, T. Y. Berry, J. P. English, C. S. Mason, J. Burroughs, C. Shreve, G. W. Sanders, G. Greer, C. A. Pearson, J. L. Kennard, G. F. Abbey, E. Kearay, R. Shoemaker, J. H. Darrah, J. M. Smith, J. R. Ellett, J. H. Foote, A. Baugh, D. D. Foley, W. Sillers, W. Brown, J. L. Foote, W. Hughes, B. S. Shreve, G. H. Sevier, C. Robinson, W. Neil, jr., J. Wylie, E. S. Jeffreys, E. S. Jeffreys, jr., D. V. McAlpine, R. T. Archer, R. S. Todd, C. Hill, D. Willis, W. T. Magruder, B. M. Smith, jr., J. F. Moore, M. Burnett, J. D. Wood, R. B. Many, N. S. Walker, D. B. McIver, S. J. Bridgers, R. Parkinson, A. S. Morris, A. J. Wright, R. A. Owens, S. F. R. Abbey, D. B. Green, L. D. Butler, John Murdock, J. M. Kennard, J. G. Hastings, jr., William Brown, jr., J. B. Coleman, S. B. Bettram, M. O. Hopkins, A. E. Thomas, B. Watkins, M. E. Smith, J. W. Balfour, L. Bridges, W. T. Morris, B. H. Moorehead, A. B. Hooper, N. Frankinbush, H. Ring, L. B. Williams, F. Oughton, W. M. Donegal, J. K. Anderson, J. A. Mantgomery, W. F. Boole, J. N. Harding, J. Y. McEver.	Sept. 18, 1866
Robert Lowry	Rebel brigadier general	Provisional Governor Sharkey and attorney general	Oct. 5, 1866
W. T. Martin	Rebel major general	Attorney general, J. C. Bullett, J. T. McMurren, S. Wood, J. Winchester, Major General Davidson, and Provisional Governor Sharkey.	
John J. McRea	Resigned from United States Congress and member of rebel congress.	W. Denison and Provisional Governor Sharkey	Oct. 23, 1865
B. G. Humphreys	Rebel brigadier general		Sept. 21, 1865

Mississippi—Continued.

Name.	Exemption under amnesty proclamation of May 29, 1865.	By whom recommended.	Date of pardon.
J. A. Orr.....	Member of rebel congress	Major General F. P. Blair, Lieutenant Colonel H. Cameron, Provisional Governor Sharkey, Hon. William Yerger, O. H. Garland, I. M. Hill, C. Kortrect, J. E. Smith, major general United States volunteers.	July 15, 1865
James Phelan	Member of rebel congress	Attorney general.....	Aug. 5, 1865
J. W. C. Watson.....	Member of rebel congress.....	Provisional Governor Sharkey, Mrs. W. C. Dawson, Hon. W. Yerger, C. B. Marr, Lieutenant Colonel H. Cameron, J. H. Record, C. Kortrecht.	Sept. 7, 1865
KENTUCKY.			
Abraham Buford.....	Graduate of West Point; resigned commission in the United States army; and rebel brigadier general.	The Attorney General, Governor of Kentucky, Hon. Green Adams, Generals Rousseau, Burbridge and Steedman, George D. Prentice, C. D. Pennebaker, J. H. Brand, W. P. Daniel, T. Anderson, W. J. Mitchell, H. H. Culbertson, R. Y. Berry, D. S. Hiter, W. Hancock, E. H. Chamberlin, L. B. Peters, G. F. Hord, R. C. Graves, D. Peebles, P. B. Morrow, J. C. Carter, J. L. Cotton, J. F. Ford, T. H. Prather, J. W. Berryman, W. Dunn, Lewis Sublett, J. L. Taylor, James Howsh, J. T. Bailey, M. Carter, W. W. George, jr., W. W. Twyman, D. Thornton, R. Bailey, J. R. Jewell, J. W. Redd, J. E. Hoskins, A. W. Harper, C. Barnes, R. H. Young, John Allen, J. H. Chrisman, R. D. Shipp, W. T. Martin, J. B. Parker, D. W. Beadles, A. C. Higbee, John M. Smith, W. L. Peters, John Smith, Edward Lewis, R. A. Scott, W. S. Cotton, James L. Berryman, T. H. Shipp, J. H. Jesse, E. N. Berryman, S. D. Hursh, J. L. Scott, V. D. Moore, T. S. Edwards, W. W. George, W. A. Dunlop, T. H. Jesse, S. D. Elmore, H. Rowland, J. B. Utterback, S. B. Utterback, T. J. Setters, W. W. Grady, D. D. Ellmore, R. McConnell, W. Wood, David Fuller, H. Wilhout, T. W. Hurst, A. L. Thornton, J. Ellmore, L. Catcher, R. S. Lotts, R. S. Gray, S. E. Parish, G. T. Colton, J. Rawley, D. M. Ball, J. R. Hammon, W. H. Martin, D. P. Price, John Wooldridge, M. J. Hardin, G. G. Thompson, Jas. Ford,	Dec. 4, 1865

<p>B. F. Bradley</p> <p>W. H. Burns</p> <p>James S. Chrisman</p> <p>George W. Erving</p> <p>James H. Lewis</p> <p>J. W. Moore</p> <p>Humphrey Marshall</p>	<p>Rebel member of congress</p> <p>Rebel circuit judge of the 11th judicial district.</p> <p>Rebel congressman</p> <p>do</p> <p>Rebel brigadier general</p> <p>Rebel member of congress</p> <p>Rebel brigadier general and member of congress.</p>	<p>A. S. New, E. Wooldridge, C. Nedle, J. H. Robertson, J. W. Burhill, L. L. Ferguson, Thomas Gredley, John S. Boore, Benjamin Williams, Joseph S. Woolfolk, John W. Venable, John Shield, James White, A. F. Smith, John S. Moss, W. H. Rowland, F. A. Evans, W. W. Adams, H. Allen, E. Martin, J. M. Wasson, J. G. Hale, A. R. Colton, J. B. McGrath, D. J. Porter, L. A. Berry, J. W. Sillard, H. C. McCleod, E. W. Atkins, F. M. George, Y. Berry, E. Crosby, E. C. Marshal, S. B. Lyons, J. W. Harris, F. P. Kincaid, L. Porter, Geo. T. Gredley, William Allen, Joshua Ferguson, James Alexander, H. C. White, Joshua Miller, C. R. Greathouse, Henry Morse, W. H. Buford, Z. H. Brown, James Garrett, D. D. Carpenter, R. B. Young, W. B. Jones, Thomas M. Field, James Elliston, C. C. Chapmar, A. J. Snyder, M. Gray, R. H. Hicks, Jackson Dale, John McDonald, George Chapman, Thomas Hifner, J. R. L. Darnell, W. W. Darnell, James Webster, James Eaton, John F. Carter, S. W. Paine, E. M. Taylor, George W. Lee, A. T. Price, F. S. Wilson, John G. Davis, A. G. Johnson, William S. Turner, James Carter, J. S. Hall, A. B. Searee, J. S. Whittington, Wm. J. Turner, R. H. Davenport, Henry Offutt, John D. Carpenter, John W. McIlwaine, D. K. Best, J. C. Johnston, Rich'd Cox, Rich'd Lancaster, Jno. T. Gray, Jno. Rogers, Benjamin W. Williams, Martin McFall, Isaac Well, J. E. McCowan, W. H. Cleveland, A. S. Thibler, N. B. Carpenter, A. C. Henton, James McKee, R. T. Thompson, R. H. Davenport, Wm. J. Turner, W. N. Thomasson, J. W. Conrad, Jas. A. Wilson, Dean M. Magee, J. Wilson, Thomas Arnold, William Lyon, Elijah Fogg, M. Furr, A. J. Shylock, W. W. Trabel, J. S. Berryman, Z. H. Brown, B. F. Bohun, W. H. Smith, H. C. Stowe, Henry M. Fellows, and Chas. R. Ferguson.</p>	<p>Aug. 29, 1865</p> <p>June 27, 1866</p> <p>Sept. 27, 1866</p> <p>Sept. 2, 1865</p> <p>Nov. 6, 1865</p> <p>Sept. 28, 1866</p> <p>Oct. 1, 1866</p>

Kentucky—Continued.

Name.	Exemption under amnesty proclamation of May 29, 1865.	By whom recommended.	Date of pardon.
Humphrey Marshall— Continued.	Rebel brigadier general and member of congress.	J. Casline, John M. Eccles, W. W. Buckley, W. B. Oldhavor, J. W. Ridgeway, B. Buckley, J. N. Webb, M. B. Pearce, clerk Henry county court, Governor J. Hurrison, S. D. Barton, Thomas J. Pearce, J. P. Ellis, G. R. Benjamin, Samuel Crutcher, J. W. Pearce, R. H. McDonald, W. H. Wilkinson, S. S. White, J. E. Cooper, William H. Perry, W. B. Henning, Jacob Stewart, George Buckley, Tom. Tank-lisly, James W. Roberts, W. M. Edward, W. J. Thomas.	Oct. 3, 1865
W. B. Machen.....	Rebel member of congress	R. D. Baker, H. Schnetty, W. C. Thompson, S. S. Hopson, T. S. Wilgus, Thomas H. Frinter, George L. Foran, J. H. Wilkinson, M. A. Smith, J. B. Askew, James Dyer, A. B. Dyer, B. J. Wall, Thomas B. Jefferson, J. N. Turner, N. B. Ratliff, J. W. McCloy, J. C. Barnes, C. D. Bradley, O. Ross Baker, W. S. Talbot, R. L. Wilson, D. W. McGodwin, James A. Carr, E. Baker, T. S. McNary, A. C. Mayes, J. H. Garrelt, J. W. Hampending, M. A. Marlow, W. D. Marlow, P. M., A. D. Alexander, Rich'd Barnes, E. N. Ervin, Duncan Ford, &c. Governor Bramlette	Sept. 22, 1865 Dec. —, 1865
Henry E. Read..... William E. Simms	Member of rebel congress..... Rebel senator.....	G. S. Franklin, Garrett Davis, Brutus J. Clay, M. C. Johnson, John B. Huston, J. W. Sleventy.	
ARKANSAS.			
Felix J. Batson..... E. C. Boudinot..... A. H. Cooper	Member of rebel congress..... Member of rebel congress..... Rebel brigadier general.....	The attorney general and governor of Arkansas..... The attorney general and Hon. D. N. Cooley..... Hon. J. H. Lane, Hon. D. N. Cooley, Hon. J. G. Blount, Winchester Colbert, P. P. Pichlyn, governor of Arkansas, Hon. W. L. Sharkey, W. P. Adair, John Brown, Orville Jennings, S. B. Maxcy.	Feb. 17, 1865 April 16, 1866 April 28, 1866
Thomas J. Churchill..... D. W. Carroll.....	Rebel brigadier general..... Member of rebel congress.....	The attorney general..... J. C. Mills, C. V. Meador, Orville Jennings, P. C. Clayton, and the attorney general.	Oct. 19, 1865 April 7, 1866
Thomas P. Dockey.....	Rebel brigadier general.....	The attorney general, General J. J. Reynolds, governor of Arkansas, W. D. Snow, United States attorney.	Sept. 18, 1866

E. H. English.....	Ex-United States judge.....	Governor of Arkansas, E. Baxton, G. V. Meador, P. Clayton, J. R. Berry, C. T. Jordan, Hon. A. A. C. Rogers.	Nov. 13, 1865
Harris Flannagin.....	Rebel governor of Arkansas.....	The attorney general, G. C. Watkins, W. E. Stoddard, Edward Crossy, C. V. Meador, E. W. Gantt, E. Baxter, J. J. Reynolds, governor of Arkansas, F. W. Compton.	Dec. 9, 1865
J. F. Fagin.....	Rebel brigadier general.....	Governor Murphy, Judge Tibbets, General Steele, and attorney general.	Nov. 20, 1865
A. H. Garland	Rebel member of congress	E. W. Gantt, H. C. Coldwell, C. V. Meador, governor of Arkansas, W. D. Fishback, J. J. Reynolds, E. Baxter, R. T. White, Orville Jennings, Hon. James Harlan.	July 15, 1865
Henry A. Hawkins.....	Graduate of West Point.....	Governor of Arkansas, United States attorney and the attorney general.	Nov. 4, 1865
R. W. Johnson.....	Rebel senator.....	Governor of Arkansas, General Granger, Hon. Preston King.....	April 23, 1866
D. McRae	Rebel brigadier general.....	Hon. W. Byers, Hon. H. C. Coldwell, Orville Jennings, and Governor Murphy.	Aug. 8, 1866
Henry Merrill	Rebel agent in Europe for purchase of clothing.....	Hon. Thurlow Weed, and United States attorney Jennings.....	Nov. 3, 1864
John S. Roane	Member of rebel congress.....	General Reynolds, Orville Jennings, J. M. Tibbets, John Kirkwood.....	Dec. 9, 1865
N. B. Pearce.....	Graduate of West Point.....	Governor of Arkansas, and John Smith.....	Dec. 11, 1865
Albert Pike.....	Rebel brigadier general, rebel commissioner to effect treaties with Indians, and rebel district judge.	Hon. B. B. French, Colonel T. P. Shaffner, J. J. Worsham, A. K. Taylor, L. V. Dixon, R. M. Mitchell, D. C. Trader, H. Lemon, C. B. Church, N. J. Wiggins, F. F. Borren, H. T. Tomlinson, J. W. Page, jr., R. Parker, D. A. Williamson, A. Vacarro, W. H. Fitch, H. J. Lyon, P. M. Stanley, J. Q. A. Fellows, T. R. Swaysey, Joseph Santum, S. M. Todd, E. Barrett, E. D. Cary, John C. Smith, John Booth, G. Sontag, John C. Goody, H. H. Tikenan, E. Blessey, G. W. Race, W. D. Andrews, J. A. Stevenson, H. N. Bulkeley, J. R. Turch, B. De Silva, J. H. Brown, J. Jackson, F. A. Deutz, H. Hodges, N. T. N. Robinson, J. H. D. Grange, J. J. McGinnis, J. H. Hinton, William Carson, J. G. Richardson, H. Hamburger, W. H. Hewett, T. F. Hedges, T. L. Macon, Robert Strong, William Kinney, John S. Gilmer, W. Endel, H. W. Wheeler, A. S. Foote, S. J. Powell, J. W. Dwyer, D. C. Johnston, John T. Monroe, J. R. McLean, J. A. De Castro, Alex. Telford, R. S. Burch, Louis Davidson, James Gordon, H. Williams, W. H. Lewis, F. J. Kuhnholtz, G. G. Pomet, C. S. Stevant, William Cline, W. A. White, R. Grunpert, H. T. Schuling, M. E. Silenico, Patrick Clancey, Philip Rosenthal, J. E. Talton, C. T. Haft, J. T. Pettigrew, John Ray, Hugh Conway, J. Fedder, J. Finberg, James Chamberlain, T. D. Namston, A. D. Halbert, H. M. Robinson, Isaac Lockhart, John McFarland, John G. Fleming, W. Z. Mason, S. Hamilton, Alfred Shaw, E. Hogan, J. T. Barrett, J. W. Adams, J. H. Deems, A. Jervis, D. F. Simpson, R. W. Stanley, S. Ehrlick, Joseph Pearce, N. Williamson,	April 23, 1866

Arkansas—Continued.

Name.	Exemption under amnesty proclamation of May 29, 1865.	By whom recommended.	Date of pardon.
Albert Pike—Continued.	Rebel brigadier general, rebel commissioner, &c.	J. O. Bogey, Henry Abel, J. W. Bostwick, R. H. Brown, John Galpin, David Bidwell, J. M. Freeman.	
H. F. Thomasson.....	Member of rebel congress.....	Jesse Turner, T. C. White, E. D. Ham, F. M. Johnson, John T. Loudon, D. C. Williams, F. J. Searle, Cyrus Bussy, H. C. Caldwell, J. W. Johnson.	Nov. 8, 1865
John C. Tappan.....	Rebel brigadier general.....	The attorney general, Hon. W. Dennison, General Andrews, J. K. Goodloe, S. B. Thomas.	Oct. 20, 1865
Elias Rector.....	Ex-United States marshal and superintendent of Indian affairs.	E. C. Boudinot, W. P. Adair, John T. Brown, C. Carter, R. A. Love, R. M. Jones, James Riley, Winchester Colbert, Edmond Pickens, and Governor of Arkansas.	Jan. 29, 1865
Daniel Ringo.....	Ex-United States district judge.....	The attorney general, Governor of Arkansas, United States attorney, B. C. Trepnall, P. Dudley, Judge Caldwell.	April 16, 1866
Henry M. Rector	Rebel governor of Arkansas.....	The attorney general, Hamilton Pope, W. M. Mathey, J. J. Reynolds.	Oct. 17, 1865
Albert Rust	Ex-United States member of Congress and rebel brigadier general.	Governor of Arkansas, Judge Paschal, General Reynolds, John Hancock, E. M. Pearce, and A. J. Hamilton.	Dec. 18, 1865
G. D. Royston.....	Member of rebel congress.....	Governor Murphy, C. V. Meador, E. W. Gantt, W. W. Fishback, E. Baxter, J. J. Reynolds, United States attorney, W. D. Snow.	

ALABAMA.

C. A. Battle.....	Rebel brigadier general.....	The attorney general, governor of Alabama, and G. W. Lawson.....	June 30, 1866
Alpheus Baker.....	do.....	The attorney general, governor of Alabama, and General Wager Swayne.	July 11, 1866
David Clopton.....	Resigned seat in United States Congress and member of rebel congress.	The attorney general, governor of Alabama, Albert Elmore, M. J. Safold, and George Reese.	Oct. 4, 1865
W. P. Chilton.....	Member of rebel congress.....	The attorney general, governor of Alabama, governor of Georgia, Benjamin Fitzpatrick.	Oct. 19, 1865
Thomas B. Cooper.....	do.....	Governor of Alabama.....	Nov. 4, 1865
F. M. Cockerill.....	Rebel brigadier general.....	Governor of Alabama, General L. F. Hurlburt, governor of Missouri.....	Aug. 10, 1865

M. H. Cruikshank.....	Member of rebel congress.....	Governor of Alabama.....	Nov. 4, 1865
J. L. M. Curry.....	do.....	The attorney general and the governor of Alabama.....	Oct. 23, 1865
H. D. Clayton.....	Rebel major general.....	The governor of Alabama and General Wager Swayne.....	Oct. 2, 1865
E. S. Dargan.....	Member of rebel congress.....	The attorney general and governor of Alabama.....	Oct. 21, 1865
Z. C. Deas.....	Rebel brigadier general.....	The governor of Alabama, General L. F. Hubbard, F. C. A. Dexter, and R. V. Montague.....	April 5, 1865
E. C. Elmore.....	Rebel assistant treasurer.....	Governor of Alabama.....	June 28, 1866
W. H. Echols.....	Graduate of West Point.....	The governor of Alabama, P. H. Dox, John Potts.....	Nov. 24, 1865
T. J. Foster.....	Member of rebel congress.....	The governor of Alabama.....	Oct. 6, 1865
Duff C. Greene.....	Rebel brigadier general.....	Governor of Alabama, D. W. C. Thomas, T. Reavis, J. Barrot, C. S. Brag, George H. Dunlop, W. W. Russell, John A. Winston, Josiah Colling, H. W. Broadnax, A. W. Dillard, F. P. Snedecor, D. H. Williams, A. A. Winston, J. M. Winston, N. T. Dimick, A. D. Hall, A. A. Coleman, D. O. White, J. E. Windham.....	Sept. 14, 1865
J. T. Holtzclaw.....	do.....	Governor of Alabama, James Berney, L. Owen, N. A. Chisholm.....	Nov. 4, 1865
R. Jemison, jr.....	Rebel member of congress.....	The attorney general, governor of Alabama.....	Oct. 4, 1865
William G. Jones.....	Ex-United States district judge.....	John G. Shorter, the governor of Alabama, W. D. Phelan, R. F. Ligon, William H. Chambers, A. J. Walker, Jefferson Faulkner, William A. Gunter, H. C. Bullock, J. A. Sandford, E. Y. Fair, D. S. Troy, B. McKinney, V. S. Murphy, H. C. Semple, W. P. P. Chilton, J. A. Elmore, D. Jordan, J. T. Holtzclaw, Thomas H. Watts, W. H. Graves, S. H. Dixon, S. F. Rice, Wade Keyes, James H. Clarton, I. R. Johns, John White, I. D. F. William, W. S. Burr, S. D. Hale, E. W. Pettus, G. C. Ellis, J. B. Walden, L. Strange, R. F. Ligon, L. F. McCoy, J. H. Fitts, C. C. Langdon, C. P. Gage, James Bond, O. M. Dox, R. M. Patton, E. S. Owens, G. D. Hooper, and E. P. Jones.....	June 14, 1866
Wade Keyes.....	Rebel attorney general.....	The attorney general, governor of Alabama.....	Sept. 29, 1865
David P. Lewis.....	Member of rebel congress.....	The attorney general, governor of Alabama, J. C. Bradley, D. C. Humphreys, and E. E. Douglass.....	Oct. 20, 1865
John T. Morgan.....	Rebel brigadier general.....	The attorney general and governor of Alabama.....	July 20, 1866
Y. M. Moody.....	do.....	The attorney general, governor of Alabama, General Wager Swayne, and Admiral Farragut.....	Sept. 27, 1866
Thomas B. Mills.....	Resigned his commission in United States navy.....	The attorney general, governor of Alabama, W. M. Byrd, J. H. Winston, G. W. Stone, and H. C. Semple.....	Oct. 20, 1865
E. W. Pettus.....	Rebel brigadier general.....	The governor of Alabama.....	Sept. 30, 1865
James L. Pugh.....	Resigned his seat in United States Congress.....	The governor of Alabama, General Grant, General Dodge, Joseph C. Bradley, J. N. Hayne, and the attorney general.....	Feb. 17, 1866
P. D. Roddy.....	Rebel brigadier general.....	The governor of Alabama, governor of Georgia, J. J. Sibels, and Benjamin Fitzpatrick.....	Nov. 4, 1865
John G. Shorter.....	Ex-governor of Alabama.....		

Alabama—Continued.

Name.	Exemption under amnesty proclamation of May 29, 1865.	By whom recommended.	Date of pardon.
C. L. Sayre.....	Ex-officer of United States marine corps.	The governor of Alabama	Sept. 12, 1865
W. R. Smith.....	Member of rebel congress	J. Hubley Ashton, A. H. Garland, G. E. Spencer, and B. H. Hill.....	July 20, 1865
P. H. Watts	Ex-governor of Alabama	The governor of Alabama, Benjamin Fitzpatrick, and the attorney general.....	Oct. 18, 1865
S. A. M. Wood.....	Rebel brigadier general.....	The governor of Alabama	Nov. 4, 1865

CLAIMS FOR HORSES.

LETTER

FROM

THE SECRETARY OF WAR,

IN ANSWER TO

A resolution of the House of December 17, respecting claims for horses seized in Indiana by United States authorities.

JANUARY 11, 1867.—Referred to the Committee on Military Affairs and ordered to be printed.

WAR DEPARTMENT,
Washington City, January 9, 1867.

SIR: In reply to the resolution of the House of Representatives of December 17, 1866, respecting claims presented to the Quartermaster General by citizens of Indiana for horses or other property seized or received by the United States in July, 1863, I have the honor to transmit herewith the Quartermaster General's report of this date on the subject, which contains all the information the files of the department afford.

Very respectfully, sir, your obedient servant,

EDWIN M. STANTON,
Secretary of War.

Hon. SCHUYLER COLFAX,
Speaker of the House of Representatives.

QUARTERMASTER GENERAL'S OFFICE,
Washington, D. C., January 9, 1867.

SIR: I have the honor to acknowledge the receipt of a resolution of the House of Representatives of December 17, 1866, requesting the Secretary of War to inform the House "whether any claims have been presented to the Quartermaster General of the United States by citizens of the State of Indiana for horses or other property seized or received by the government of the United States during the raid of John Morgan through said State in the month of July, 1863, for the purpose of suppressing said raid, and for the pursuit and capture of the said Morgan; what number of horses were so seized or received, and what amount in value of other property for which such claims have been made; whether such claims have been paid, and, if not paid, why not."

In reply to the inquiry of the House of Representatives, I have the honor to

state that the only information which the records of this office afford is contained in a report of Brevet Brigadier General James A. Ekin, in charge of the first division of the Quartermaster General's office, dated December 17, 1866. He states the number of claims received for horses at 76—\$11,117.

Number recommended to Third Auditor for settlement.....	20	\$2, 525
Examined and suspended, requiring additional evidence.....	38	5, 515
Not yet taken up.....	18	3, 077
	<hr/>	<hr/>
Total filed.....	76	11, 117
	<hr/>	<hr/>

. There is no data in this office to show the entire number of horses seized or received for use of the army from citizens of Indiana during the Morgan raid. This can only be judged of from the number of claims thus far filed, and it does not appear that claims for other property seized or received during the Morgan raid has been presented to this office.

The examination of those in hand will be continued with all reasonable despatch.

The resolution of the House of Representatives is herewith returned.

I am, very respectfully, your obedient servant,

D. H. RUCKER,

Acting Quartermaster General, Brevet Major General.

Hon. EDWIN M. STANTON,

Secretary of War.

MAIL SERVICE BY OCEAN BRAZILIAN STEAMERS.

LETTER

FROM

THE POSTMASTER GENERAL,

IN ANSWER TO

A resolution of the House of 10th December, transmitting a report relative to the mail service performed by the Ocean Brazilian Steamers.

JANUARY 11, 1867.—Referred to the Committee on the Post Office and Post Roads, and ordered to be printed.

POST OFFICE DEPARTMENT,

Washington, January 10, 1867.

SIR: I have the honor to transmit herewith, in answer to the resolution of the House of Representatives of the 10th ultimo, respecting the mail service performed by the ocean Brazilian steamers, a copy of a report made by the postmaster of New York, enclosing a communication from the president of the United States and Brazil Mail Steamship Company, with schedule of the number of passages made by the steamers of that line between New York and Rio de Janeiro (Brazil,) and of the time occupied in making each trip, outward and homeward.

Of the twelve round trips performed up to November 30, 1866, six failures occurred to arrive at New York in time to make connection with the outward-bound steamers from that port to Brazil, for three of which failures the company furnish explanations.

The contract allows twenty-eight days for the performance of each outward trip from New York to Rio de Janeiro, and twenty-six days for each inward trip from Rio de Janeiro to New York, including stoppages, each way, at the intermediate ports of St. Thomas, Para, Pernambuco, and Bahia. The average time occupied on the outward trips already made was about twenty-nine days, and on the inward trips about twenty-seven days. Seven outward and six inward trips have been made within schedule time; and the time occupied on five outward and six inward trips has exceeded that allowed by the schedule.

I am, very respectfully, your obedient servant,

ALEX. W. RANDALL,

Postmaster General.

HON. SCHUYLER COLFAX,

Speaker of House of Representatives.

POST OFFICE, NEW YORK, *January 4, 1867.*

SIR: In reply to your letter of 11th ultimo, referring to a resolution adopted by the House of Representatives calling upon the Postmaster General for information concerning the ocean Brazilian steamers, I beg leave to enclose you a communication from C. K. Garrison, esq., president of the United States and Brazil Mail Steamship Company, covering a schedule of the number of passages and the length of time of each trip to and from Brazil made by the steamers of that line, which schedule agrees with the account in the books of this office.

I have the honor to be, very respectfully, your obedient servant,

JAMES KELLY,

Postmaster.

Hon. ALEX. W. RANDALL,

Postmaster General, Washington, D. C.

OFFICE OF UNITED STATES AND BRAZIL MAIL STEAMSHIP CO.,
5 BOWLING GREEN, NEW YORK, *December 20, 1866.*

DEAR SIR: Your favor of the 12th instant is received, desiring "to be furnished with the number of passages of the steamers of this line, and the length of time of each trip to and from Brazil, at the request of the Post Office Department, and in accordance with a resolution of the House of Representatives." In response thereto I now enclose the schedule.

This is the longest steamship route out of any port in the United States, upwards of 5,200 nautical, or 6,000 statute miles, with stoppages at four intermediate ports; these stoppages require considerable time.

At Pernambuco the steamers have to lie quite a distance outside the harbor, and in stormy weather the landing and receiving of the mails, &c., is delayed until the weather is favorable.

At Para, at the mouth of the Amazon, the entrance and passage up the Amazon is difficult and dangerous, and being without lights and buoys it is unsafe, if not almost impossible, to enter the river at night. This causes a delay of about two days every time. Some delay has been caused by the great difficulties in obtaining coal upon a new steam route.

Again there are many holidays in Brazil, causing great delay in loading and unloading and in the necessary business with officials, and at no time can business be transacted between sunset and sunrise; furthermore, the steamers have stopped at Para both ways upon each trip, the mail contract requiring them to do so only upon every other trip.

With all these drawbacks the service has been performed regularly and with great uniformity in time, with two or three exceptions, which were unavoidable from the above reasons.

I would here remark that the Brazilian government has not only expressed a satisfaction of the manner in which the steamers have run, but have paid in full the whole subsidy without any deductions.

Yours respectfully,

C. K. GARRISON,
President.

JOHN W. NORTON, Esq.,
Assistant Postmaster, New York.

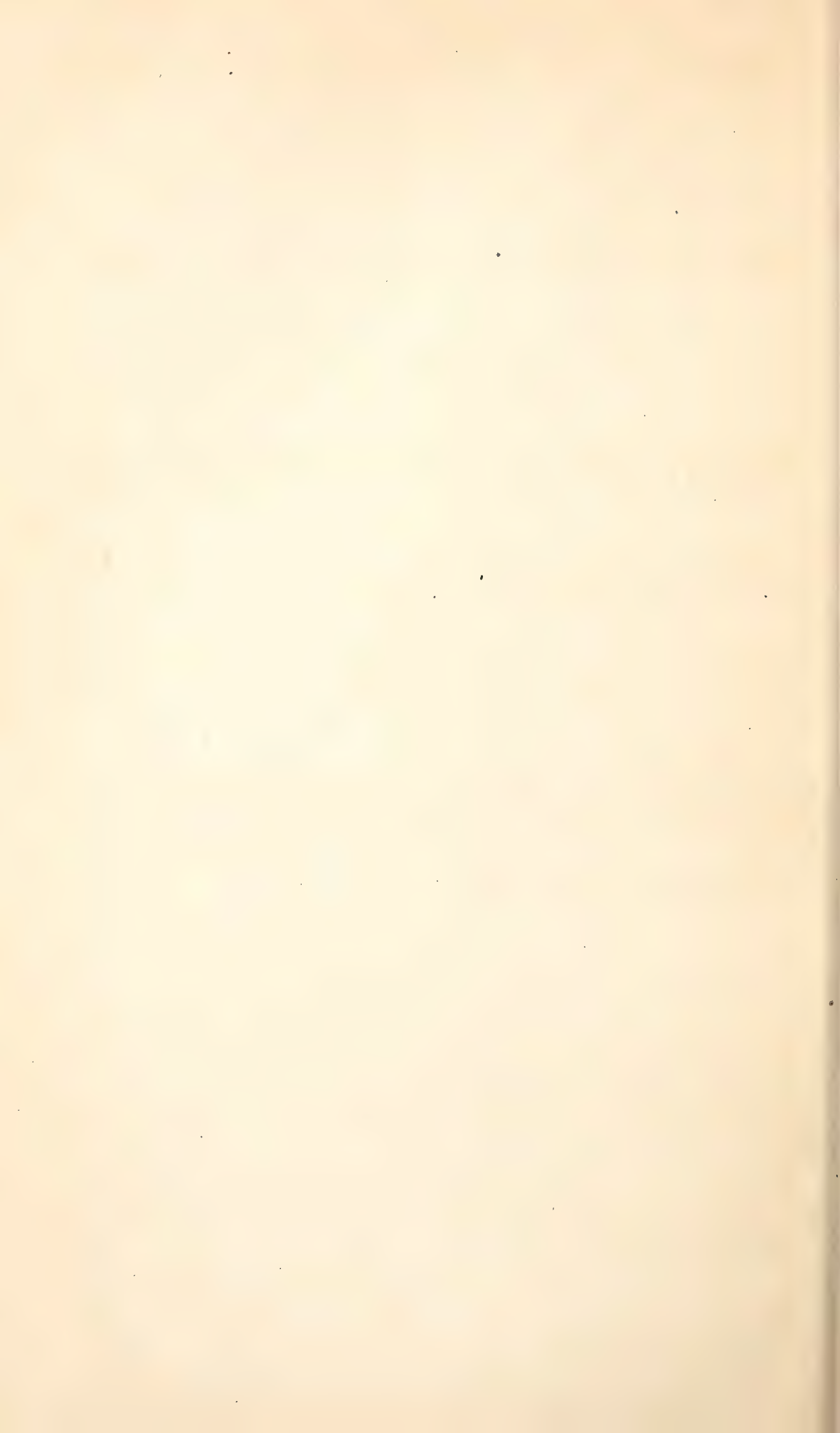
The number of passages and the length of time of each trip to and from Brazil made by the steamers of the United States and Brazil Mail Steamship Company.

Names of steam-ships.	Left New York.	Arrived at Rio de Janeiro.	Left Rio de Janeiro.	Arrived at New York.	No. days outward.	No. days homew'd.
Havana	Sept. 30, 1865	Oct., 30, 1865	Nov. 4, 1865	Dec. 1, 1865	30	26½
North America ...	Oct. 30, 1865	Nov. 30, 1865	Dec. 2, 1865	Dec. 27, 1865	27	24½
South America ...	Nov. 30, 1865	Dec. 27, 1865	Jan. 2, 1866	Jan. 29, 1866	27	26½
Havana	Dec. 29, 1865	Jan. 29, 1866	Feb. 2, 1866	Mar. 7, 1866	*31	*32½
North America ...	Jan. 30, 1866	Feb. 27, 1866	Mar. 3, 1866	Mar. 29, 1866	28	26
South America ...	Feb. 28, 1866	Mar. 27, 1866	Apr. 3, 1866	May 1, 1866	26¾	27
Morning Star	Mar. 30, 1866	Apr. 30, 1866	May 4, 1866	May 31, 1866	†31	†27
North America ...	April 30, 1866	May 29, 1866	June 3, 1866	June 29, 1866	29	26
South America ...	May 30, 1866	June 27, 1866	July 2, 1866	July 27, 1866	27¾	25½
North America ...	July 21, 1866	Aug. 19, 1866	Aug. 23, 1866	Sept. 20, 1866	28½	26
South America ...	Aug. 22, 1866	Sept. 19, 1866	Sept. 25, 1866	Oct. 21, 1866	28	26
Guiding Star	Sept. 22, 1866	Oct. 24, 1866	Oct. 29, 1866	Nov. 30, 1866	†32	†32
North America ...	Oct. 22, 1866	.....	.....	.....	.....	.....
South America ...	Nov. 22, 1866	.....	.....	.....	.....	.....
Guiding Star	Dec. 22, 1866	.....	.....	.....	.....	.....

* The Havana on her second trip out and back was delayed by stormy weather.

† The Morning Star outward was detained about three days at Para and Bahia.

‡ The detention of the Guiding Star out and back was uncontrollable; the breaking of the machinery, which obliged her lying four days at St. Thomas each way to repair it, besides being obliged to run slow from Rio de Janeiro, as there were no facilities along the coast of Brazil to make the repair.



SERVICES TO STATE DEPARTMENT BY NAVAL VESSELS.

MESSAGE

FROM THE

PRESIDENT OF THE UNITED STATES,

IN ANSWER TO

A resolution of the House of the 19th ultimo, relative to amounts charged to the State Department for services of naval vessels.

JANUARY 9, 1867.—Referred to the Committee on Appropriations and ordered to be printed.

To the House of Representatives :

I transmit herewith a communication from the Secretary of the Navy, in answer to a resolution of the House of the 19th ultimo, requesting a statement of the amounts charged to the State Department since May first, eighteen hundred and sixty-five, for services rendered by naval vessels.

ANDREW JOHNSON.

WASHINGTON, *January 9, 1867.*

NAVY DEPARTMENT,

Washington, January 2, 1867.

SIR: I have the honor to acknowledge the receipt of the following resolution of the House of Representatives, passed on the 19th ultimo:

“Resolved, That the Secretary of the Navy be requested to communicate to this house a statement of the amounts charged to the State Department since May first, eighteen hundred and sixty-five, for services rendered by naval vessels.”

No charge that I am aware of has been made to the State Department for services rendered by naval vessels since the first of May, eighteen hundred and sixty-five, or at any other time during my connection with this department.

Very respectfully,

GIDEON WELLES,
Secretary of the Navy.

Hon. SCHUYLER COLFAX,
Speaker of the House of Representatives.

STEAMER SCOTLAND.

LETTER

FROM

THE SECRETARY OF WAR,

IN ANSWER TO

A resolution of the House of the 9th instant, transmitting a report of the Quartermaster General relative to the wreck of the steamer Scotland.

JANUARY 14, 1867.—Referred to the Committee on Commerce and ordered to be printed.

WAR DEPARTMENT,
Washington City, January 12, 1867.

SIR: I have the honor to transmit herewith a report of the Quartermaster General of January 10, 1867, containing all the information in possession of the department respecting the wreck of the steamer Scotland, which is the subject of a resolution of the House of Representatives of January 9, 1867.

Very respectfully, sir, your obedient servant,

EDWIN M. STANTON,
Secretary of War.

Hon. SCHUYLER COLFAX,
Speaker of the House of Representatives.

QUARTERMASTER GENERAL'S OFFICE,
Washington, D. C., January 10, 1867.

SIR: I have the honor to return herewith resolution of the House of Representatives dated January 9, 1867, requesting to be informed what steps have been taken for the removing of the wreck of the steamer Scotland, sunk in the entrance of the channel to the harbor of New York.

In reply, I would respectfully state that no action has been taken by this office in the matter further than to obtain from prominent parties in New York, engaged in the wrecking business, estimates of the probable expense of raising the wreck.

Enclosed herewith is a copy of communication of the Quartermaster General, dated December 27, 1866, on this subject, together with a report of General Stewart Van Vliet, deputy quartermaster general United States army, who is of the opinion that it will cost \$150,000 to remove this obstruction.

The papers in the case are herewith returned.

I am, very respectfully, your obedient servant,

STEWART VAN VLIET,
Acting Q. M. G., Brevet Major General U. S. A.

Hon. E. M. STANTON,
Secretary of War.

List of papers transmitted.

No. 1. Offer of J. J. Merritt to raise the steamer Scotland.

No. 2. Report of General S. Van Vliet, deputy quartermaster general, relative to the steamer Scotland.

No. 3. Report of the Quartermaster General, dated December 27, 1866, returning the memorial of the marine underwriters of the city of New York, relative to clearing the obstructions in the channel at the entrance of the harbor of New York.

No. 1.

COAST WRECKING CO., 65 WALL STREET,
New York, December 16, 1866.

DEAR SIR: In answer to your note asking me to make an examination and report to you the cost of removing the wreck of the steamship Scotland, lying at the Outer Middle, below Sandy Hook, so as to clear the channel from all obstructions of ingress and egress, I beg to report:

That I have made an examination of the said wreck; that she is an iron vessel of 430 feet long, 38 feet beam, 33 feet hold, lying on the Outer Middle, directly in the track of vessels entering the port of New York from the south and east. She is imbedded in the sand about fifteen (15) feet, and parted amidships about five (5) feet; her decks are about even with the water.

After a careful estimate, I believe that it will require about \$150,000, in addition to what may be realized from the saving of the wreck, to complete the removal of the said wreck, and make the channel free from all obstructions as before, and I will agree to remove the wreck for the above sum, completing the work to the entire satisfaction of any properly appointed party, or forfeit all pay.

Yours, truly,

J. J. MERRITT.

JOHN D. JONES, Esq., *President, &c.*

No. 2.

QUARTERMASTER'S OFFICE,
New York, December 24, 1866.

GENERAL: In obedience to your instructions of the 21st, to ascertain and report what it will cost to remove the wreck of the steamer Scotland, now lying at the entrance of New York harbor, I have the honor to state that I have consulted with different parties in this city familiar with such business, and they inform me that it will cost \$150,000 to remove any portion of the vessel. I enclose herewith a letter from the president of the Coast Wrecking Company, who offers to remove it for that sum.

My impression is that it can be removed at a cost of \$100,000, and that it will be found, when thrown open to competition, that the lowest bid will not exceed this sum.

It would be well probably to ask for the larger sum, so as to secure the removal beyond all chance of failure.

The papers forwarded are herewith returned.

I am, very respectfully, your obedient servant,

STEWART VAN VLIET,
Brevet Major General and D. Q. M. G.

Bvt. Maj. Gen. M. C. MEIGS,
Quartermaster General U. S. A.

No. 3.

QUARTERMASTER GENERAL'S OFFICE,
Washington, D. C., December 27, 1866.

SIR: I have the honor to return herewith a memorial of the marine underwriters in the city of New York, asking that an appropriation of money may be made sufficient to remove the wreck of the steamer Scotland on the bar outside of Sandy Hook, which has been referred to this office for report.

In reply, I have the honor to transmit herewith the report of Brevet Major General Van Vliet, deputy quartermaster general, who states that upon consultation with different persons familiar with such matters, it will cost \$150,000 to remove the obstructions; an offer to do the work for this sum is herewith enclosed.

General Van Vliet is of the opinion that the wreck can be removed at a cost of \$100,000 if thrown open to competition.

The papers in the case are herewith returned.

I am, very respectfully, your obedient servant,

M. C. MEIGS,
Q. M. G., Bvt. Maj. Gen. U. S. A.

Hon. E. M. STANTON,
Secretary of War.

I certify the foregoing papers to be true copies.

WM. D. WISE,
Bvt. Brig. Gen. and A. Q. M.



INTERNAL REVENUE.

LETTER

FROM

THE SECRETARY OF THE TREASURY,

IN ANSWER TO

A resolution of the House of 4th January, transmitting a report of the Commissioner of Internal Revenue, relative to collections in the first district of Illinois for penalties assessed therein during 1866.

JANUARY 14, 1867.—Referred to the Committee of Ways and Means and ordered to be printed.

TREASURY DEPARTMENT,
January 12, 1867.

SIR: In reply to a resolution of the House of Representatives adopted on January 4, requesting me to communicate "the amount of internal revenue collected in the first collection district of Illinois for each month in the year 1866, and the amount of penalties assessed against any one person, firm, or company in said district, with the amount remitted by the department at Washington in each case, specifying the instances where the remittance has been made upon the recommendation of any particular officer or officers in said district," I herewith transmit a communication from the Commissioner of Internal Revenue, with an accompanying schedule, embracing all the information called for which it is in the power of the department to furnish.

Respectfully yours,

H. McCULLOCH,
Secretary of the Treasury.

Hon. SCHUYLER COLFAX,
Speaker of the House of Representatives.

TREASURY DEPARTMENT, OFFICE OF INTERNAL REVENUE,
Washington, January 11, 1867.

SIR: I have the honor to acknowledge the receipt of your communication of the 5th instant, transmitting a resolution of the House of Representatives, which calls for information relative to amount of internal revenue collected in the first collection district of Illinois for each month during the year 1866, the amount of penalties assessed against any one person, firm, or company, and the amount remitted by the department at Washington, during the same period, upon

recommendation of any officer, and requesting me to furnish such particulars as may be within my power to give.

I herewith transmit statement showing the amount of internal revenue collected within that district in the period named; also the amount assessed as a penalty by the assessor, or added to the tax by the collector, which, upon the application of the parties, accompanied by the evidence prescribed by regulations in such cases, showing said sums to have been erroneously or illegally assessed, have been remitted. This has been done in each instance upon the certificate and recommendation of the collector and assessor of the district.

The number of cases in which the assessor has added to the tax assessed against any one person, firm, or company, twenty-five, fifty, or one hundred per centum for fraud in the rendering of returns, or for failure to make such returns, or in which the collector had added ten per centum to the tax for failure to make payment thereof within the time prescribed by law, and the amounts of such additions, I am entirely unable to furnish, as they are assessed, collected, and deposited in the same manner and at the same time with the taxes, to which they are in addition, and no statement of such cases or amounts is required to be made to this office, and the requisite data is not, therefore, in my possession.

I also furnish statement of one case in which a portion of the amount paid in lieu of fines and penalties was refunded to the parties, as having been collected without authority and as extortionate in amount.

But one case of fraud upon the revenue, occurring in the district above mentioned, was compromised at this office during the year 1866, viz: the case of James A. Huch, a delinquent brewer, against whom an assessment of \$5,272 20 was made for taxes fraudulently withheld by him. This sum, with \$6,000, in lieu of penalties and forfeitures, together with the costs, was accepted in compromise of his liabilities.

Very respectfully,

E. A. ROLLINS, *Commissioner.*

Hon. H. McCulloch, *Secretary of the Treasury.*

Amount of fines and penalties refunded from January 1, 1866, to December 31, 1866.

EAGLE MANUFACTURING COMPANY, 10 per cent. penalty.....	\$142 38
Assessed for not paying the tax within the time required by law.	
This was incurred on account of a mistake of their cashier, whereby the payment was delayed two days; and as this was the result of a mistake, the amount was refunded.	
B. LOWENTHAL, 10 per cent. penalty	56 67
The claimant was absent from the city when the tax should have been paid, and after his return was detained at home by sickness of his family, on which account the amount was refunded.	
HENOCH & BROTHERS, 100 per cent. penalty.....	242 31
The law imposes 100 per cent. penalty for fraudulent returns upon the annual taxes, and but 50 per cent. for the monthly taxes.	
These parties (Hench & Brothers) were assessed 100 per cent. penalty, when by law they were liable to 50 per cent. penalty.	
EINSTEIN & SCHLESINGER, 100 per cent. penalty.....	400 00
Were assessed 100 per cent. penalty, when by law they were only liable to 50 per cent. penalty.	
H. A. KOHN & BROTHER, 100 per cent. penalty.....	962 79
Were assessed 100 per cent. penalty, when by law they were only liable to 50 per cent. penalty.	

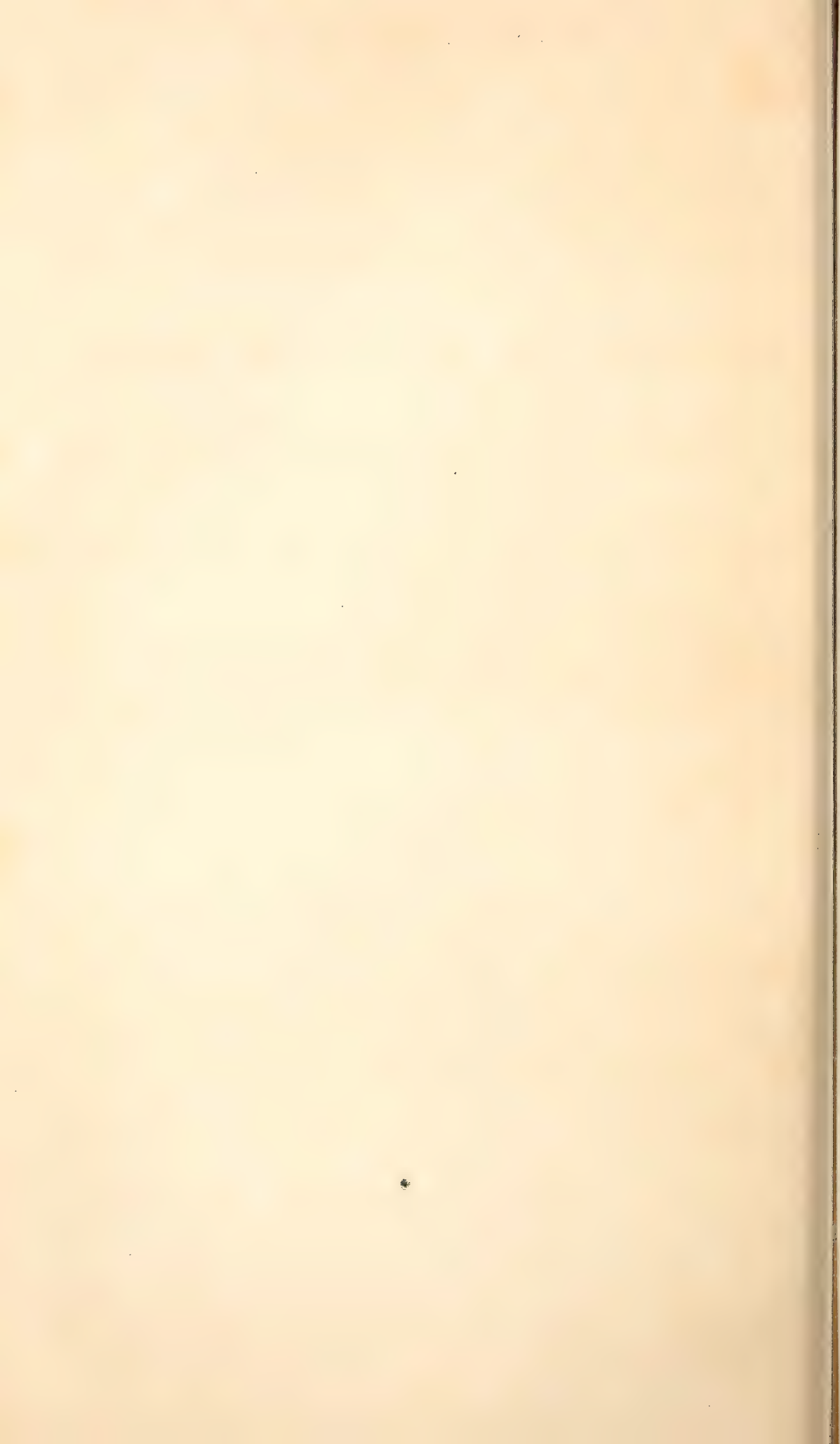
SIMON SCHLOSSMAN, 100 per cent. penalty.....	\$916 67
Was assessed 100 per cent. penalty, when by law he was only liable to 50 per cent. penalty.	
KUH & LEOPOLD, 100 per cent. penalty.....	790 36
Were assessed 100 per cent. penalty, when by law they were only liable to 50 per cent. penalty.	
KOHN, CLAYBURG & EINSTEIN, 100 per cent. penalty... ..	831 83
Were assessed 100 per cent. penalty, when by law they were only liable to 50 per cent. penalty.	
FURST & BRADLEY, penalty on manufactures.....	36 70
Incurred by oversight, and was refunded because the party was free from fault.	
EINSTEIN & SCHLESINGER, fines and penalties.....	3,000 00
These parties were manufacturers. They had made insufficient returns. The aggregate of their deficiency of tax was \$890. This amount was assessed by the assessor with the additional penalty of \$800, a total amount of \$1,690.	
The assessor had reported the case to the United States district attorney, with a statement that \$7,000 fine, he believed, to be sufficient. The district attorney, it was represented, consented to waive proceedings upon the payment of that sum. No legal proceedings were instituted against the parties, and no compromise was made by the commissioner.	
It was represented that the fine was extortionate; it was certainly regarded as very excessive, and \$3,000, of the penalty of \$3,500, deposited to the order of the honorable Secretary of the Treasury, was refunded.	

7,379 71

All the foregoing claims were recommended by the assessor and collector of the district, excepting the last, which was allowed by the Secretary and Commissioner.

Statement of the amount of internal revenue collected in the first collection district of Illinois during the year 1866.

January.....	\$425,041 98
February.....	240,103 38
March.....	439,448 61
April.....	449,000 69
May.....	389,806 87
June.....	533,815 91
July.....	625,794 81
August.....	1,183,165 64
September.....	492,935 60
October.....	416,626 53
November.....	304,027 45
December.....	319,146 30
Total.....	5,818,913 77



MEXICO.

MESSAGE

FROM THE

PRESIDENT OF THE UNITED STATES,

IN ANSWER TO

A resolution of the House of 19th ultimo, relative to the occupation of Mexico by the American forces.

JANUARY 14, 1867.— Referred to the Committee on Foreign Affairs and ordered to be printed.

To the House of Representatives :

In compliance with the resolution of the House of Representatives of the 19th ultimo, requesting information regarding the occupation of Mexican territory by the troops of the United States, I transmit a report of the Secretary of State and one of the Secretary of War, and the documents by which they were accompanied.

ANDREW JOHNSON.

EXECUTIVE MANSION,
Washington, January 14, 1867.

DEPARTMENT OF STATE,
Washington, January 4, 1867.

The Secretary of State, to whom was referred the resolution of the House of Representatives of the 19th ultimo, requesting the President to furnish the House, "if in his opinion not inconsistent with the public interest, any further information in regard to the occupation of Mexican territory by the troops of the United States, which he may have received since he sent to this house his message of the 8th instant," has the honor to lay before the President the papers containing the information desired, as specified in the subjoined list.

Respectfully submitted :

WILLIAM H. SEWARD.

The PRESIDENT.

Mr. Romero to Mr. Seward.

[Translation.]

MEXICAN LEGATION TO THE UNITED STATES OF AMERICA,
Washington, 13th of December, 1866.

Mr. SECRETARY: For some days past the public press of this country have been publishing the report of a strange act, attributed to General Sedgwick,

commanding in chief the United States forces at Brownsville, State of Texas. It has been said that the general referred to sent troops of the United States, who occupied Matamoras, at the moment when that city was attacked by General Escobedo, to carry out the orders he had from the government of the Mexican republic; the necessary result of such occupation being, under the circumstances in which that garrison stood, to interpose great difficulty to its capture by General Escobedo, whose forces were, in consequence, repulsed with serious and lamentable losses. This narrative, with more or less details, has been confirmed by private letters. Besides, I hoped to have before me the official report of such occurrences in order to recur to you in presenting the complaints which the case should require.

Notwithstanding, I have not yet been able to obtain the official report which I wished for, and as I have no doubt that the facts treated of have substantially taken place, as the press has related them, I think myself obliged to call to them your attention, transmitting to you herewith the annexed extracts from the "Tribune," and the "World," of New York—correspondent with the 6th day of this month. Convinced, as I am, through various trustworthy reports, that the occupation of Matamoras, to which I allude, did not emanate from orders and instructions from the President of the United States, my object now is only to express the pain caused to me by this uncalled for occurrence, through the mischief it occasioned to the loyal forces of my government, no less than for the sinister constructions which the enemies of the Mexican republic might put upon it, by attributing it to a direct intervention of the United States in the domestic affairs of that republic.

I should assure you that I entertain well-founded confidence that the government of the United States will take the measures necessary to chastise all who are responsible for the acts to which I confine myself, and to avoid in future the repetition of the like.

I avail of this occasion to repeat to you, Mr. Secretary, the assurances of my most distinguished consideration.

M. ROMERO.

Hon. WILLIAM H. SEWARD, &c., &c., &c.

Mr. Seward to Mr. Romero.

DEPARTMENT OF STATE,
Washington, December 17, 1866.

SIR: I have the honor to acknowledge the receipt of your note of the 13th of December, in which you allude to a late proceeding of General Sedgwick, in taking possession of Matamoras and holding it for a few hours. I have to inform you in reply, that the proceeding of General Sedgwick was not only without authority from this government, but is understood by this department to have been in violation of the orders of his military superiors; that as soon as it came to their knowledge the proceeding was disallowed and countermanded, and that General Sedgwick was thereupon suspended from command and subjected to discipline. I am unable to write with precision upon the subject for want of full information; but I think there is sufficient ground for believing that General Sedgwick's error was committed under pressing importunities from persons residing in Matamoras, amenable to the government of Mexico, and that his indiscreet proceeding was regarded by him as favorable to that government, instead of being injurious to it, or likely to give offence.

I avail myself of this opportunity to renew to you my assurances of the highest consideration.

WILLIAM H. SEWARD.

Señor Don MATIAS ROMERO, &c., &c., &c.

WAR DEPARTMENT,
Washington City, December 27, 1866.

MR. PRESIDENT: In reply to the resolution of the House of Representatives, dated December 19, 1866, respecting the occupation of Mexican territory by United States troops, hereto annexed. I have the honor to send herewith General Grant's report of this date, with three communications from General Sheridan, which contains all the information on the subject in possession of the department.

Very respectfully, your obedient servant,

EDWIN M. STANTON,
Secretary of War.

The PRESIDENT.

HEADQUARTERS ARMIES OF THE UNITED STATES,
Washington, December 27, 1866.

SIR: I have the honor to return herewith the resolution of the House of Representatives, Congress of the United States, calling for further information in regard to the occupation of Mexican territory by United States troops, &c., referred to me for report.

The only information on this subject, received at these headquarters since my report of the 8th instant, is contained in the enclosed copies of a report and telegrams from Major General Sheridan, of date December 10th and 11th instant.

Very respectfully, your obedient servant,

U. S. GRANT, *General.*

Hon. E. M. STANTON,
Secretary of War.

NEW ORLEANS, LOUISIANA, *December 10, 1866.*

GENERAL: I have the honor to notify you of my return from the Rio Grande frontier. I have the honor to report affairs there in very good condition. On the 28th of November, General Sedgwick demanded and obtained the surrender of the city of Matamoras from General Canales, occupying it with about one hundred men. On the 30th he received my orders disapproving his action, and withdrew his men to our side of the river. The object of the occupation was for the alleged purpose of protecting American citizens, but the real facts are that he was made the cat's-paw of shrewd merchants of Matamoras, who wanted to secure the liabilities which were due to them from Canales before he was obliged to give up the city to liberal forces. General Sedgwick's action was without authority and in violation of written instructions as to the manner in which the grievances of American citizens in Matamoras should be redressed. I have relieved him from his command, in obedience to orders from the Secretary of War, and placed him in arrest, subject to further orders from the President. Matamoras passed into the hands of Escobedo on the 30th of November, and a better condition of affairs now exists on the Rio Grande frontier than has for the last eighteen months. A detailed report will be forwarded by to-morrow's mail.

P. H. SHERIDAN,
Major General.

General U. S. GRANT, *Washington.*

Official:

GEO. K. LEET,
Assistant Adjutant General.

NEW ORLEANS, *December 11, 1866*—1 p. m.

GENERAL: I telegraphed you last evening of the good condition of affairs on the Rio Grande. The act of General Sedgwick gave rise to no complications; in fact, General Escobedo called on me to ask me not to hold him responsible for it. The Canales faction having been submerged I was enabled to release General Ortega, upon Escobedo promising that he would look out for him. There is not a city or state in Mexico which takes issue against Juarez's government. On my return I met General Sherman at Brazos Santiago. He had just come from Vera Cruz, and was en route with Mr. Campbell for Matamoras.

P. H. SHERIDAN,
Major General, &c.

General U. S. GRANT.

Official:

GEO. K. LEET,
Assistant Adjutant General.

HEADQUARTERS DEPARTMENT OF THE GULF,
New Orleans, La., December 11, 1866.

GENERAL: I have the honor to make the following report of my recent trip to the Rio Grande frontier: I arrived at Brownsville at 4 o'clock on the morning of the 6th instant, and found that, on the 24th of November, General Sedgwick, commanding the sub-district of the Rio Grande, had demanded and received the surrender of the city of Matamoras from Canales, who arbitrarily held possession of the city against the legitimate authority of his government. That, on the 30th ultimo, the few United States troops (about fifty) holding the city had been withdrawn, in obedience to instructions sent by me disapproving the act of occupation or any action arising from it.

The motives which influenced Brevet Brigadier General Sedgwick in this act are unknown to me, but the alleged one of protecting American citizens and their property was in violation of a decision made by the honorable Secretary of State on this subject, which decision is on file in his office.

The case presents itself to my mind in this way: After the surrender of Matamoras to General Caravajal, the merchants of Matamoras—most of them foreign-born, and some claiming American citizenship, but ultra Maximilian adherents and blockade runners during the rebellion—induced Canales (a noted character) to pronounce against the authority of the liberal government. They had two objects in this: first, to help the imperial cause by creating as much dissension as possible among the liberal leaders; second, that they might pass out goods from the city free of duty, or nearly so. This worked well for them, and goods said to amount to a large sum of money were so moved out.

This condition of affairs continued until General Escobedo, in command of the liberal forces, advanced troops against Matamoras for its recapture. Pending this event Ortega was sent for, and, as Canales was a usurper, it was necessary to support him by a more noted character like Ortega; but Ortega having been arrested at Brazos Santiago, and Escobedo having laid siege to the city, these merchants were obliged to change their plans. They then proposed that Canales should surrender the city to Escobedo, if Escobedo would agree to pay them the money given, or said to have been given, to Canales, the amount being some (\$600,000) six hundred thousand dollars. This Escobedo refused, and fearing that they would lose their claim, and perhaps their property, if the city was taken, they brought their influence to bear on Brevet Brigadier General Sedgwick, and made him their "cat's-paw" to protect their interests. This is the point of the whole affair.

The occupation of the city was a mere matter of form, and had the consent of General Escobedo, who made no objections, and since the city passed into his hands has called on General Sedgwick in the most friendly manner, and asked me to forgive his action.

There is little doubt but that this unauthorized and harmless intervention does much to reconcile and bring about the very good condition of affairs that existed in Matamoras when I left Brownsville, which condition of affairs enabled me to release General Ortega, as he had but few friends on the Mexican side after the suppression of the Canales usurpation.

I am, general, very respectfully, your obedient servant,

P. H. SHERIDAN,
Major General U. S. A.

Brevet Major General J. A. RAWLINS,
Chief of Staff, Washington, D. C.

Official :

GEO. K. LEET,
Assistant Adjutant General.

Copy of an article published in the Rio Grande Courier, of date Brownsville, December 7, 1866.

THE OCCUPANCY OF MATAMORAS.

From the despatches which appear in the northern papers, via Louisville, coupled with the arrival of General Sheridan at this point, it would seem well settled that Colonel Thomas D. Sedgwick either has been, or immediately will be, relieved from the command of the sub-district of the Rio Grande.

While the primary cause of this is, no doubt, the dissatisfaction felt by high authority on account of his course in the late occupancy of Matamoras, yet it is more than probable that some change would have occurred at an early date.

While we know of no earthly reason for reflecting upon the good intentions of Colonel Sedgwick, yet it has been well understood that the delicate position of affairs here requires a man of enlarged experience, both in military and civil matters. Colonel Sedgwick came to the command by virtue of seniority of rank solely, and without regard to fitness or qualification. He did not seek the place. Indeed, without claiming to speak by authority, we think we can safely say that he accepted it only because his official duty did not allow him to decline it.

It has so happened that the difficulties over the river, and the machinations upon this side, have been far greater and more numerous than usual during his administration, making his duties the more intricate and arduous.

It is impossible for either the authorities at New Orleans or at Washington to lay down a course of conduct to be followed in every case which may arise. All they can do is to mark out a general line of policy, leaving to the good sense and judgment of the commander here to attend to the details. To do this is oftentimes the most difficult part of the task.

The interests upon the other side of the Rio Grande are so often complicated, the leaders so numerous, their professions so persistent, and their skill at diplomacy so great, backed up, as they are, by any number of shrewd, intelligent lawyers, that he is indeed a man of unusual intelligence who can cope with them. And for this reason we say, as we have before said, that there is no place upon the continent where a commanding officer of great sagacity and firmness is more required.

In the late fiasco, for such it was, Colonel Sedgwick has been simply outwitted by a combination of military and civil influences, the latter mostly of American nationality.

The foreign merchants and capitalists of Matamoras, who have been compelled to advance money to Canales, were naturally enough anxious for its return. Escobedo, in all attempts which were made at negotiations, persistently refused to recognize Canales's engagements. These merchants were consequently opposed to any surrender of the city which should involve the loss of the money advanced by them. Many of them were Americans, and, in these matters, had the ear of the commanding officer. In their advice and representations they were of course influenced by their interests. They were also in the confidence of Canales, for, in the matter pending, their interests lay with him. With these, and with Canales, who professedly recognized Juarez as President, Colonel Sedgwick had to deal; every question which might at the same time arise, the more complicated by the presence of an army, under the command of the recognized representative of Juarez, besieging the city, for whose success Gen. Sedgwick was at all times anxious. The result was a blunder which, in its practical results, was in this instance "worse than a crime." The object desired, viz., the advancement of Escobedo's interest, was not obtained, but rather the contrary, as the presence of the American force, in the attack which followed, contributed very greatly to the success of Canales. Nor, as it seems, were the wishes of the government carried out, as, in rendering assistance to Juarez, his instructions did not warrant the occupancy of American territory. The result has been Colonel Sedgwick's removal. Though not as generally well known as his predecessors, socially he has been popular with our citizens, and, aside from his official duties, his departure from among us (should this be involved) will be regretted. In commenting upon his course in the late affair, this journal has felt compelled to criticise it with some severity. The result has shown that we were correct.

In doing so, we have been actuated by no unkind feelings to Colonel Sedgwick, but have acted solely for the honor and interest of the American name.

Official:

GEO. K. LEET, A. A. G.

HEADQUARTERS A. U. S., *December 27, 1866.*

REVOLUTION IN CANDIA.

MESSAGE

FROM THE

PRESIDENT OF THE UNITED STATES,

IN ANSWER TO

A resolution of the House of the 17th ultimo, relative to the revolution in Candia.

JANUARY 14, 1867.—Referred to the Committee on Foreign Affairs and ordered to be printed.

To the House of Representatives:

I transmit to the House of Representatives, in answer to a resolution of the 17th ultimo, calling for information relative to the revolution in Candia, a report of the Secretary of State, with accompanying documents.

ANDREW JOHNSON.

WASHINGTON, *January 10, 1867.*

DEPARTMENT OF STATE,

Washington, January 9, 1867.

The Secretary of State, to whom has been referred the resolution of the House of Representatives of the 17th ultimo, requesting the President to communicate, "if deemed compatible with the public interest, a copy of any official correspondence which may have taken place relative to the revolution now in progress in the island of Candia, a possession of the Ottoman Porte," has the honor to lay before the President the papers specified in the accompanying list.

WILLIAM H. SEWARD.

The PRESIDENT.

List of papers.

Mr. Stillman to Mr. Seward.....	April 22, 1866.
Same to same.....	May 14, 1866.
Same to same.....	June 18, 1866.
Same to same.....	Aug. 18, 1866.
Mr. Morris to same.....	Aug. 28, 1866.
Mr. Stillman to same.....	Sept. 23, 1866.
Mr. Seward to Mr. Morris.....	Sept. 25, 1866.
Mr. F. W. Seward to Mr. Stillman.....	Sept. 25, 1866.
Mr. Morris to Mr. Seward.....	Sept. 29, 1866.

Mr. Stillman to same	Oct. 8, 1866.
Mr. Morris to same	Nov. 2, 1866.
Same to same	Nov. 2, 1866.
Mr. Stillman to same	Nov. 19, 1866.
Mr. Morris to same	Nov. 22, 1866.
Mr. Stillman to same	Nov. 26, 1866.
Mr. Seward to Mr. Morris	Nov. 28, 1866.
Mr. Morris to Mr. Seward	Nov. 28, 1866.
Same to same	Nov. 31, 1866.
Mr. Stillman to same	Dec. 3, 1866.
D. W. Botassi to same	Dec. 31, 1866.

Mr. Stillman to Mr. Seward.

[Extract.]

No. 19.]

CONSULATE OF THE UNITED STATES,
Canea, April 22, 1866.

SIR: I have the honor to acknowledge the receipt of a flag, a seal, and three sets of Diplomatic Correspondence; one of the latter I have given to her Britannic Majesty's consul at this place, to whom I am indebted for many courtesies, official and unofficial; another to Hon. Mr. Cassimati, of Syria, one of the most eminent advocates of Greece, and a firm friend (as, indeed, all the Greeks I know have been) of our government in its recent troubles; the third, as directed, I have placed in the archives of this consulate.

Events seem to be justifying my previsions of troubles in the east, and from all we can hear the chances of war are increasing every day. The Turkish government has recalled its stores of gunpowder from this island to Constantinople, notwithstanding that armed assemblies of Cretans are reported in the eastern part of the island, and many indications appear of serious trouble here.

It seems to me that it would be wise for our government to be in readiness for such increase in the American trade and shipping, occupied in these waters, as would inevitably arise from a war in this part of the world.

* * * * *

Yours, most respectfully,

W. J. STILLMAN,
United States Consul.

HON. WILLIAM H. SEWARD,
Secretary of State.

Mr. Stillman to Mr. Seward.

[Extract.]

No. 21.]

UNITED STATES CONSULATE,
Canea, May 14, 1866.

SIR: I regret to have to inform you that another of those popular movements which from time to time have disturbed the tranquility of this island is now on foot, with apparently great danger of becoming an armed general insurrection.

Justifiable as any such movement can be by the present mal-administration of the government, it is scarcely to be hoped that it could result in good to any one, and least of all to the unfortunate peasants, who, goaded by the incessant injustice and misgovernment of their rulers, have determined to reclaim their rights even at the risk of losing everything.

It would be difficult to exaggerate the extent of the abuses of power which

this island is subject to, and to which and the despairing struggles against which the island owes its reputation of turbulence, from which I am certain a wise, equitable government would soon redeem it.

* * * * *

I am, sir, most respectfully, your obedient servant,

W. J. STILLMAN,
United States Consul, Canea.

Hon. WILLIAM H. SEWARD,
Secretary of State.

Mr. Stillman to Mr. Seward.

[Extract.]

No. 22.]

UNITED STATES CONSULATE,
Canea, June 18, 1866.

SIR :
* * * * *

I regret to say that the population of Crete has been much disturbed during the last two months by political agitations; but there seems to be a chance of this being calmed without any conflict with the authorities. The last month especially has been a very trying one, and I consider it due to the consular corps alone that peace has been preserved, through the restraint they have exercised on the arbitrary propensities of the governor general, and the moral assurance they were able to give the people that justice would be done them if only they refrained from insurrectionary movements. The governor general seems disposed to provoke a collision while the forces of the empire are free to act here; while the Greeks, irritated by the unusual taxes imposed and the gross injustice and corruption of the administration, are very impatient; but so far the peace has been preserved. If, however, the government should, as I fear, determine on the disarmament of the Greeks, we shall have a general and bloody insurrection; and as I have taken a very active part in the negotiations and conferences which have so far protected the people from offensive military movements, the Turkish population is much enraged against me, I understand, and have threatened to kill me as soon as the fighting commences; and after me, the Russian, Italian, and Greek consuls. The Turkish troops now here amount to ten thousand men; and with this force they consider themselves sure of victory, and are much irritated at being restrained from repressing the manifestations of discontent summarily.

Under the circumstances I consider that my life and perhaps the lives of my family may any day be in jeopardy from a fanatical and uncontrollable populace, and I have written to the admiral commanding our fleet, that, if it is consistent with the general interest, I desire the presence of a man-of-war; the need being the greater that, owing to the European complications, there is no man-of-war of any Christian power here.

As an indication of the danger I will mention that two or three days ago a dervish landed with a battalion of troops, and, flag in hand, paraded the streets, preaching a war of extermination against all Christians, and was responded to by the "Amen" of the rabble, which in the cities is mainly Turkish. The only notice the authorities took of it was to re-embark him for Candia.

These troubles are the more to be regretted as the year promises to be a bountiful one, and large exports and corresponding imports might be expected.

Most respectfully, your obedient servant,

W. J. STILLMAN,
United States Consul, Canea.

Hon. W. H. SEWARD, *Secretary of State.*

Mr. Stillman to Mr. Seward.

[Extracts.]

No. 25.]

UNITED STATES CONSULATE,
Canea, August 18, 1866.

SIR: The address which I have the honor to forward, accompanied by a literal translation, has been enclosed to me for transmission to the government, with a letter to me of which I enclose a copy. The circumstances demand and deserve a thorough explanation.

It is now four months since a congress of Cretan deputies of all the villages of the island, having, as I have previously advised you, met in a peaceful and legal manner, drew up a petition to the Sultan, in which they prayed for the fulfilment of the promises made from time to time both to them and for them to the protecting European powers. That the concessions demanded were needful and just will be testified to by all foreign residents. No country in the limits of European civilization can be worse or more oppressively governed than this. The taxes equal the full amount of the exports. The Turks have never made or repaired a road during their tenure of the island; and yet the islanders are compelled to pay the regular import duties on their produce carried from one port of the island to another. Their harbors are filling up. They are unprovided with schools, which to the Greeks is a great deprivation; justice is a mockery, and all the courts exist but to obey the mandates of the pacha.

* * * * *

Innocent people are exiled, fathers imprisoned for the offences of their sons, and men arrested are thrown into secret dungeons for offences unknown, and, unjudged, remain there for times unlimited. * * * *

Against all these things the Cretans petitioned respectfully and humbly, and the only reply of the Porte is to send 20,000 troops to repress agitation and arrest the deputies. Two of the signers of the petition who had separated themselves, immediately after, on the advice of the consuls, were arrested and are still confined in the most secret dungeons of the seraglio. The deputies themselves are obliged to take refuge in the inaccessible mountains of the island; and the whole population is in insurrection to defend them, and menaced on all points by the troops, who dare not make a direct attack.

This condition of things has been developing since the first of May, and during this time the consular corps has had occasion several times to express its opinion to the governor on the wicked and impolitic line of conduct he has followed. * * * *

It has need constantly to exercise a calming and reasoning influence on the excited people, and has indeed in several cases prevented aggressive or armed defensive acts on one or the other part. Although deprived of the powerful influence of the consuls of England and France, the former of whom has been negative, the latter hostile to the Cretans, the consular body has presented an insurmountable obstacle to the arbitrariness of the pacha, and compelled him from time to time to remit his hostile orders.

In these negotiations, partly because my American instincts have made me more uncompromisingly hostile to tyranny, and less amenable to diplomatic reticence, and partly because our political position makes us free from suspicion of ulterior purposes in our action, I have been put forward by that portion of the corps, most hostile to the line of conduct of the pacha, in some measure as a spokesman. I have, however, carefully refrained from any act which could be called excess of my consular privileges, yet declaring freely and at all times my sympathy with the people.

The Cretans, on the other hand, mindful of our old friendship for their fellow Greeks, and from a certain republican sympathy which exists between their race and ours, as well as from the idea I find everywhere among the oppressed,

that free America must sympathize with the enslaved in whatever land, come to me more than to some of the other consuls for hope in their adversity, and look more to our nation than to any other for that moral encouragement without which they must despair.

They invoke the good offices of the United States with the European governments. I hope that their touching letter, every word of which is wrung from patriotic hearts by bitter and most unmerited oppression, may find grace in the sight of our President and his advisers, and that America will add in Crete one more to the many claims on the gratitude of mankind she now has, and make her way one step further to the proud position of moral arbiter between mankind and oppression.

Could the people of America see what is passing under my eyes—all the noblest of a nation exiled, or driven to the mountain caves, their only refuge from the galleys, villages depopulated by the approach of a barbarous and licentious soldiery, men, women, and children driven roofless into the mountains, their possessions devastated in wantonness, churches sacked, and the whole industry paralyzed, and all without an act of hostility to the constituted authorities beyond a respectful prayer for justice and mercy—they would outdo the charity of the days of the Greek revolution, as much as their means exceed those of that time, and the united voice of the nation would be heard even to Constantinople, in tones not to be misunderstood.

Our minister near the Porte has won himself an honored position in the hearts of the Cretans by the warmth with which he has advocated their claims to justice, though without that authority with the Ottoman government which would have made the action of other legates decisive. It is to be hoped that when the opportunity permits, our government will not be less mindful of the claims of humanity.

I remain, sir, yours respectfully,

W. J. STILLMAN,
United States Consul, Candia.

Hon. WILLIAM H. SEWARD, *Secretary of State.*

PROSNERON, (APOCUNA,) *August 1-13, 1866.*

SIR: We, the undersigned, representatives of the Christian population of the island of Crete, feel exceedingly gratified in publicly acknowledging the services you have rendered to our beloved country by evincing on every occasion your elevated sentiments on behalf of our sacred cause.

The undersigned venture to believe that the worthy representative of our best ally, the Christian United States government, would kindly accept the subjoined document, addressed by the "brethren in bonds" of Crete to the generous and illustrious President of the American democracy, and cherish the hope that American intervention in Europe will be hailed as the harbinger of our national reunion with the kindred race, the Hellenes.

We have the honor to be, sir, your sincere friends,

THE REPRESENTATIVES

of the Christian Population of Crete.

Mr. STILLMAN, *United States Consul in Crete.*

[Translation.]

MR. PRESIDENT: The Greek island of Crete, the native country of Jupiter and Minos, glorious in the ancient times and happy, insignificant to-day and unhappy, sighs before the Christian world under the heavy yoke of the Mussulman.

Taking up arms with the rest of Greece in the glorious struggle of 1821, in order to gain its liberty, it has suffered all the woes of the history of that epoch, which is only a series of tragedies. Our fathers had whitened the plains with their bones during that nine years' struggle, and thousands of women and children captured had been sold as slaves, even the eldest of whom had done their part in the pitiful drama.

We had by general good fortune gained all the country of the island, and one of the strongest fortresses, and we hoped that the time had come for us and for our Greek brothers, the happy hour of liberty, but we were disappointed. Our sacrifice not being considered sufficient, we must suffer new dispensations. Inexorable policy had delivered us anew to the Ottoman yoke, first under the Viceroy of Egypt, and then under the Sultan.

The three great powers, in order to soften the injustice, promised us, on the 10th of February and 8th of August, 1830, in the protocols of London, at least paternal government and assigned rights, but unfortunately even these little benefits the government would not grant us.

This action of diplomacy was unjust and against the nature of things, and showed how human work, and that of wise men, comes to naught; for from that time the island never has been quiet to enjoy the blessings of peace, but it is always in convulsion, and sometimes struggles for its only desire, its freedom, and other times for the performance of the promises made in the protocols.

In 1833 there was a revolution which was drowned in blood. In 1841 another had the same fate. In 1858 we asked the restitution of our rights, and the putting in execution of the Hatti Humayoum, but nothing was given but promises. In 1861 part of the people, on account of the oppressions and injustice of the government, and by their ignorance, fell for a moment into the traps of the Catholic propaganda, believing that by that means they would gain their liberty.

A long task, Mr. President, would be the relating of our sufferings, in which every right-thinking observer must sympathize. Heavy taxes, and disproportionate to our poor gains, we pay in different ways, and none of the benefits which the subjects of every well-governed kingdom obtain do we have. Tribunals we have only by name, and justice is a thing unknown to us; the government is the arbitrary will of the governor. Our children, from the lack of schools, are reared in the darkness of ignorance. In no public position are we accepted. Our evidence before the tribunals has not the same weight as that of the Ottomans. The evil that the Mussulmen do to us is seldom punished. Religious toleration, which is so often proclaimed, is perverted and made vain. We ourselves, from the little means we have, support our clergy, and with little exception our school. Our language, which is the language of the country for Christian and Ottoman, is not accepted at the tribunals. The government collects only the taxes, without rendering us any of the simplest benefits.

Such is, in a few words, our condition, the bettering of which we have asked many times from our government. This year, in the month of May, we asked of the Sultan, in the peaceful and respectful way which is fitting, relief from the heavy loads, equal justice, the execution of some governmental reforms of those promised us by the protocols, and the accomplishment of the published Hatti Humayoum, which many things have been promised to the Christians, nothing being given.

Unfortunately the Sublime Porte thought fit to throw contempt on our first petitions without examining them, but to insult us and threaten our chiefs that it would imprison them in the fortresses unless they gave written promises never again to make complaint to it, and sent many soldiers and ships in order to injure us.

Being in such a desperate condition we took up arms to sustain ourselves against violence, and to maintain with our blood the sacred rights which as reasonable creatures we have.

The struggle which we have entered on is great, as we are few and weak. We have before us the colossal power of one of the empires, but we have confidence in our right, and commend the unequal struggle to God, who is the strength of the powers of the Old and New Worlds, being ready to sacrifice ourselves all for this.

By origin and religion, by language and tradition, we belong to the Greek race, and our proper place is as a part of the kingdom of Greece. Such is the statement of the case. And what does the Ottoman empire gain by us? Being subject to it, we accomplish nothing except continual and periodical disturbances and collisions; while being united with our mother race, besides the bettering of ourselves, we will complete the fulness of that nation which, by the absence of its members, is made unsound.

Mr. President, if the injustice of your mother-land was set right by the sacred struggle which through the divine blessing was conducted to triumph by the ever-to-be-remembered Washington, how is ours justified! We should be happy if we had only the shadow of the benefits which your country gained in that epoch.

Being in such a condition, we, the respectfully undersigned, representatives of the Cretan Christian people, dare to ask, Mr. President, the intercession of the great democracy over which you happily preside, in order that our matters may obtain attention from the cabinets of the great European powers.

Blessing the Highest for the prosperity and strength of the glorious democracy of the United States of America, we take the liberty of undersigning ourselves the humble servants of your Excellency, the representatives of the Cretan people.

[Here follow sixty-three signatures.]

Mr. Morris to Mr. Seward.

[Extracts.]

UNITED STATES LEGATION,

Constantinople, August 28, 1866.

SIR: The United States consul at Crete has sent me a copy of the address of the inhabitants of Crete to the President of the United States, asking his intervention with the European powers against the Turkish government. It is an eloquent, and seems also a truthful, document. No part of the empire has suffered more from Turkish misrule than Crete. That island, with one of the most fertile soils and genial climates, is rapidly becoming a desert and a lair for wild beasts. Facts speak for themselves. In the classic ages its population exceeded a million; under the Venetians it was 600,000; and when the Turks in 1669 entered into possession of it, it contained 450,000 inhabitants. It has now declined to 190,000. The people—nine-tenths of whom are Greeks—have never been satisfied with Turkish rule, and time and again they have risen against their oppressors, and bloody and savage has been the strife that has desolated its once blooming plains. In 1821 the Cretans took up arms in the general Greek rising against the Turks. For years they fought with a heroic desperation that has never been surpassed; and when all was lost in their native island, they repaired to the continent and entered the ranks of the liberating army of Greece, where their valor, under the walls of Athens and elsewhere, placed them in the foreground among the valiant contingents of that band of heroes. They, in fact, fairly conquered a right to independence for Crete, but were, by the decrees of a cold-blooded and selfish diplomacy, separated from their brethren on the continent and incorporated in the reconstituted empire of Turkey, under Mahmoud the Second. Since that time innumerable have been their woes and sufferings.

Like all the people of the interior, they suffer from the curse of provincial misgovernment. The plagues of Turkey—most flagrant, as everybody here knows—are the government of the provinces by pashas, appointed through bribery or favoritism from Constantinople, and the race of dragomans. The latter, as a body, are corrupt, sycophantic, mean, and truckling, and so intensely Turkish that they seriously embarrass the operation of Christian influence on the Porte. Some of the worst abuses of this, the worst of governments, owe their existence, in part, to the mischievous influence of the dragomanic fraternity, who, for gifts in houses, lands, and jewels, (and many of them are rich in such gifts from the Porte,) screen the greatest enormities and misrepresent and pervert the true state of things. Only when the abolition of these two of the most patent evils of Turkey—pashalic governments and dragomancy—shall be accomplished, can we hope for real reform and progress in this empire.

* * * * *

My heart bleeds at the tale of wrong and outrage I daily hear of Turkish misrule in the provinces, and it seems to me as if a righteous God would some day or other inflict a fearful retribution on those Christian powers whose selfish interests condemn this, one of the fairest regions of the globe, and its Christian populations, to a state of thralldom to a corrupt and fanatical race of rulers, who govern in these enlightened times as Ghengis and Tamerlane did in their ages. Why do not the great powers apply their favorite doctrine of non-intervention to the east, and allow its people to settle their destinies themselves?

Strong as is my feeling of sympathy with the Cretans, and all such suffering populations of this empire, I have not deemed it consistent with the duties of my position to take any direct part in their behalf with the Porté. I have, however, exerted some influence for their benefit with Lord Lyons and the Russian minister, and I have reason to believe that it has had a tendency to persuade the Porte to a more prudent course of action than it first was disposed to adopt. At my instance in chief Lord Lyons despatched the 80-gun frigate *Arethusa* to Crete, whose presence there has had a most wholesome effect in restraining the violence of the Turkish troops. Whatever I can do *indirectly* in this way, consistent with the good relations that I am bound to entertain with the Porte, I shall most cheerfully do. I have counselled Mr. Stillman to a prudent course of conduct, and not to yield too strongly to his natural sympathies. The fact is, in this country one must forget, it seems, that he is a human being or a Christian; for if he gives vent to his feelings as such, he will compromise himself personally and politically.

It makes me proud to know that the suffering masses here, as everywhere else, instinctively turn their eyes to the great republic of America as their truest and best friend. They know us to be disinterested and true friends of liberty, and that our sympathies are with all who aspire to freedom, and who suffer under oppression.

* * * * *

With great respect, your obedient servant,

E. JOY MORRIS.

HON. WILLIAM H. SEWARD,
Secretary of State.

Mr. Stillman to Mr. Seward.

No. 27.]

UNITED STATES CONSULATE,
Canea, September 23, 1866.

SIR: I regret to inform you that the insurrectionary movements of which I have advised you in their incipency have, through the bad policy of the local

and general governments, culminated in actual hostilities. Several battles have taken place, in most of which the insurgents have had the advantage, and in one they utterly defeated four battalions of Egyptian troops, killing some four to five hundred, and obliged the rest to capitulate. A battle took place yesterday, in which the government forces within ten miles of the capital of the island, though numbering 11,000 men, were able after a day's fighting to make no impression on the position of the insurgent Christians, but, from the most reliable accounts we can get, they suffered great losses. The war is assuming a religious character, and the Turkish troops ravish and destroy the Christian villagers, defile and ravage the churches, and commit many barbarities. The greater part of the island is abandoned, the people going either to the mountains or to the neighboring Greek islands, and nearly the whole able-bodied population is under arms—the Christians as insurgents, and the Mussulmen as auxiliaries to the troops.

Already the damage wrought is very great, and should the insurrection continue two months longer, the island will be ruined for twenty years.

A fleet of foreign men-of-war, French, English, Russian, and Italian, is now here, watching events; but it is not believed that any power will endeavor to interfere between the Porte and its insurgent subjects.

Yours, respectfully,

W. J. STILLMAN,
United States Consul.

Hon. WILLIAM H. SEWARD,
Secretary of State.

Mr. Seward to Mr. Morris.

No. 129.]

DEPARTMENT OF STATE,
Washington, September 25, 1866.

SIR: I have received, and have read with much interest, your communication of August 28, concerning the inhabitants of Crete. I have also received from Mr. Stillman a despatch relating to the same subject, which is accompanied by the address to which you refer.

The sentiments of sympathy which you express for a brave and suffering people are very natural, and I see no impropriety in your consulting with the representatives of other Christian powers at the Porte, with the view, through the use of your good offices, of ameliorating the unhappy condition of the inhabitants of Crete.

I am, sir, your obedient servant,

WILLIAM H. SEWARD.

E. JOY MORRIS, Esq., &c., &c.,
Constantinople.

Mr. F. W. Seward to Mr. Stillman.

No. 24.]

DEPARTMENT OF STATE,
Washington, September 25, 1866.

SIR: Your despatch No. 25, dated August 18, last, on the subject of the political and religious difficulties existing in the island of Crete, and enclosing a memorial to the President on the subject, has been received.

The petition to the President will receive due consideration. In the mean

time Mr. Morris, our minister at Constantinople, will be instructed to inquire into the matter, and to consult with the representatives of other Christian powers, that their good offices may be used in favor of the Christian inhabitants of Crete.

I am, sir, your obedient servant,

F. W. SEWARD,
Acting Secretary.

W. J. STILLMAN, Esq.,
United States Consul, Canea.

Mr. Morris to Mr. Seward.

[Extracts.]

No. 170.]

LEGATION OF THE UNITED STATES OF AMERICA,
Constantinople, September 29, 1866.

SIR: I have the honor to acknowledge the receipt of despatches Nos. 116 and 117. The instructions contained in the same will be complied with.

The insurrection in the island of Crete cannot, to all appearances, continue much longer, as the insurgents have recently suffered a severe defeat, and the Porte is constantly despatching troops to the island for the purpose of crushing resistance by an overwhelming superiority of numbers. The sympathies which the Cretans have naturally aroused in Greece, and practically manifested in the shipment of arms and ammunition and in expeditions of armed bands to Crete, have given rise to earnest protests on the part of the Porte. The relations between the Hellenic government and that of Turkey are in a very critical position, and an open rupture is probable unless the insurrection soon comes to an end. King George manifests no disposition to restrain the practical demonstrations of sympathy which his subjects are making in behalf of a people with whom they are related by ties of blood, religion, and language. However widely separated, the Greek people are united by a fellow-feeling which binds them together as closely as if they were all gathered into one nationality. This feeling neither time nor oppression by stronger rulers has ever been able to extinguish, and it is this, also, which renders the government of such a people so extremely difficult by the Turks, with whom they never have assimilated, and never can. They are proud of their name, their language, their descent, and their history, and devoutly attached to their religion, and can never be moulded in the general mass of Turkish subjects, so as to lose their distinctive features as a people. Faults they have—such faults as belong to all people who have been the slaves of a foreign despotism for ages—but they have virtues and capacities also, calculated to make them, when united in a common nationality, one of the most enterprising, powerful, and promising races of the age.

The island of Crete has suffered more than any other part of the empire the evils that seem inseparable from provincial governments. It has been too often regarded as a field of plunder for rapacious pachas, who have enriched themselves by the most infamous practices, at the expense of the people they were sent to govern. * * * * *

I deemed it my duty, at one time, to represent to Lord Lyons that facts of which I was cognizant justified me in asking his interference with the Porte to procure the recall of Ismael Pasha, as its own interests would be seriously compromised by his retention in office, through an open insurrection to which he was forcing the Cretans. Although Lord Lyons was fully advised of the situation of affairs in the island, I deemed it my duty, in the general interests of humanity, and out of friendship to the Porte, to make the above representation to him, and the more so because I have no right of direct interference myself in domestic questions of this empire. This governor has been at length recalled,

and is now in disgrace ; but unfortunately he was not removed from office till he had, by his vicious government, goaded the Cretans into hostilities with the Turkish government. Up to the present time more than two thousand lives have been lost in the combats which have taken place, hundreds of families have left the island, the olive crop has been ungathered, and such ruin and desolation has been inflicted upon this beautiful and fertile island, that it will not recover from the effects of the same in ten to twenty years to come.

* * * * *

Although rumors of trouble prevail of disturbances in Epirus and other provinces, they have not been confirmed by any reliable authority. It is a fact, however, that the feeling of disaffection to the Porte is constantly spreading among the Christian subjects, while its pecuniary and military embarrassments are daily increasing, and to such a degree as to paralyze the power of the government to maintain its authority. Indeed, it seems, unless a change for the better soon takes place, that the great powers who have an interest in the preservation of Turkey must eventually interfere to save the empire from the ruin with which it is menaced.

I am, sir, with great respect, your obedient servant,

E. JOY MORRIS.

Hon. WILLIAM H. SEWARD,
Secretary of State.

Mr. Stillman to Mr. Seward.

No. 30.]

UNITED STATES CONSULATE,
Canca, October 8, 1866.

SIR: I beg the permission of the department to the publication of the enclosed letter appealing to the charity of the American public for the suffering Cretans.

The barbarous conduct of the Turkish troops, their repeated massacres of women and children, as well as unarmed men, have so inspired the population with terror, that they abandon their villages everywhere when the troops approach, and take refuge in the mountains and the shepherds' villages in the more inaccessible portions of the country. The troops burn the abandoned villages and destroy vineyards and orchards, appropriating all articles of food ; and the people, even if they dared return, would find themselves without the means of subsistence. Thousands have abandoned everything, and taken refuge in the neighboring Greek islands, where they remain, dependent mainly on charity for their subsistence, and these are the most fortunate.

Those who remain appeal for assistance to enable them to emigrate, and so to avoid the hardships from which otherwise many must perish this inclement season. The Russian consul proposes to employ the frigate now here to carry over the women and children to the nearest islands, and I have written to Mr. Morris, our minister at Constantinople, for his consent to ask the Canandaigua to render the same service, as the Turkish government will not permit it to Greek vessels, for fear they may bring contraband of war.

From the extreme poverty of the mass of the Cretan population, and the unprovided state they are in for any unusual need, I apprehend sufferings this winter such as the Levant has not seen for years.

Yours most respectfully,

W. J. STILLMAN,
United States Consul.

Hon. WILLIAM H. SEWARD,
Secretary of State.

Mr. Morris to Mr. Seward.

[Extracts.]

No. 174.]

LEGATION OF THE UNITED STATES OF AMERICA,
Constantinople, November 2, 1866.

SIR: Notwithstanding the reported successes of the Turkish troops in Crete, the insurrection in that island still continues. It seems hardly possible that it can be much longer sustained, such is the disparity of numbers between the insurgents and the Turkish forces; but the bitter animosity existing against Mussulman rule is so strong that it will be protracted as long as there is the faintest ray of hope. That the movement should not have been suppressed before this is surprising, considering the fact that there are over 40,000 of the best Turkish troops in the island, and that all its ports are closed by an efficient blockade, sustained by a large part of the Turkish navy.

Volunteers are flocking to the island in large numbers, and supplies of arms, ammunition, and provisions are constantly being thrown into it from Greece. The island of Syra is the centre of Hellenic operations against Crete. There cannon-balls are cast, cannon founded, powder manufactured, and arms and provisions collected and shipped to Crete as openly as if Greece was in a state of war with Turkey. * * * * * The two governments must be brought into collision if the insurrection continues much longer, as the Greek people cannot be restrained from participating in this attempt of their brethren to throw off the Turkish yoke. Millions of money are flowing in from all sides from rich Greeks in aid of the insurgents, and subscriptions in their favor are continually made in Constantinople. The movement, unless arrested in a month or more, will assume proportions of such a serious character as to menace the integrity of the Ottoman empire.

To intimidate the Hellenic government, it has been proposed to exclude the trading vessels of that power from Turkish waters. *As some 4,000 Greek vessels are engaged in commercial operations within the limits of the Turkish empire, such a measure would be severely felt in Greece. It has already been discussed in the council of state, and is to be the subject of deliberation again on Wednesday next. This appeal to selfish interests, even if it should go into effect, will have but little effect, as hatred of Turkish domination rises superior to every other consideration in the minds of Greeks. It will give rise to a bloody conflict, which will force the intervention of the great powers. I have no question but that the superiority of the Greeks as seamen will be the source of great mischief to the Turkish navy, and that their fertile genius of destruction will find means to inflict great damage on the Turkish navy. War between Greece and Turkey will give rise to piracy on an extensive scale in the Levant, and it will be well that our naval commanders should be prepared for such a contingency.

The Cretan insurrection has been ascribed to Russian influence. This is false, and known to be such by those who assert it. It has its origin solely in the desolation inflicted on the island of Crete by ages of misgovernment, by the brutal and despotic practices of its rulers, and by wrongs which cry to God for retribution, and which no people, unless lost to every manly instinct, can be expected to submit to.

With great respect, your obedient servant,

E. JOY MORRIS.

Hon. WILLIAM H. SEWARD,
Secretary of State.

Mr. Morris to Mr. Seward.

[Extracts.]

CONSTANTINOPLE, *November 2, 1866.*

SIR : The state of things here daily grows worse. How we can well escape a general revolution I am at a loss to divine, as the Greek population in the capital, as throughout the kingdom, is in an intense state of excitement. Money in great amounts is being subscribed by the Greeks of Constantinople to aid their brethren in Crete, and a revolutionary committee, with affiliations in principal capitals of Europe, is in full activity. The ancient animosity between the Greeks and Turks is ripening into such a fierce intensity that I fear it may lead to bloody scenes in the capital before long if the insurrection goes on.

Crete is the open breach where all the enemies of Turkey are concentrating their efforts against her. Through this point they hope to break into the empire, and set it in a general state of revolution. Movements are on foot also to revolutionize Albania and Thessaly.

* * * * *

As the Greeks openly assist the Cretans in men, arms, and provisions, the catastrophe cannot be far off, if the insurrection is not soon put down. The Cretans, few in numbers as they are, are fighting with ancient Greek heroism, and have thus far foiled all the efforts of a Turkish army of over 40,000 to put them down. Strange to say, European powers seem forgotten, and all eyes are turned to the United States. The Greeks look to us as the only true friends of liberty, and they cannot but believe that our government and people will, as in times past, give them proofs of sympathy. It makes one proud of his birth-right as an American to see the universal confidence reposed in us by this people, and the people of Europe everywhere. We are looked to as the pioneer nation in the path of liberty, the true champion and friend of popular liberty, and the hope of millions for political redemption.

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With great respect, your obedient servant,

E. JOY MORRIS.

Hon. WILLIAM H. SEWARD,

Secretary of State.

Mr. Stillman to Mr. Seward.

No. 32.]

UNITED STATES CONSULATE,

Canea, November 19, 1866.

SIR : I have the honor to report that the insurrection in this island continues, in spite of all the energetic efforts of the authorities to suppress it.

The insurgents, with above a thousand volunteers from Greece and other countries, are under the command of two Greek officers of experience and military education—Coroneos, late commander of the Greek national guard, a veteran of the last Greek revolution, and Zimbrakakis, brother of the Greek minister of war, a Cretan refugee.

Continual skirmishes are taking place throughout the island, generally to the advantage of the Christians, who display the greatest courage and dash, though deficient in all the means of regular warfare, having mostly old flint-lock guns, no organization, and no commissariat, living on what they can find in the country, and by this necessity incapable of remaining together in large bodies.

As was to be expected, and in such cases allowed, all resources of subsistence have been destroyed wherever the troops could penetrate, with everything else destructible, villages burned and pillaged, churches desecrated, and the graves

even violated ; women and children, old men and infants have been murdered as well as able-bodied men ; non-combatants, everything, in short, that is Christian, has been put to the sword ; or if, as is often the case, they take refuge in the caves with which Crete abounds, they are destroyed by fire and smoke. The dervishes preach in the open streets the holy war of destruction to Christians, and the downfall of the cross.

All these horrors which might be expected of a brutal soldiery, taken from the lowest and most fanatical of the Mussulman populations, seem to be permitted and even encouraged by the authorities to dishearten the Christians and oblige them to submit ; but so far it has only the effect of driving them into the snowy mountains, where they are perishing in hundreds from hunger and cold, rather than risk falling into the hands of the soldiery.

In this dreadful strait the chiefs have appealed to the Christian governments to give them facilities for sending away the families and enabling them to take refuge in the Greek islands. The Russian representative at Constantinople is the only one of the European ministers who has taken the prayer into consideration, and against his action alone the Porte has protested. Having written to Mr. Morris concerning the matter, he informs me that he has requested Admiral Goldsborough to send a ship here to my order. In case of its coming, I shall take the responsibility of leading off in the deportation of families, when other national ships now here will follow. Should the government protest on the ground of such action being contrary to international law, in assisting the insurgents, I shall reply, that having violated all the laws of warfare, as recognized by civilized nations, they are not entitled to claim their observance *by civilized nations* for their exclusive benefit.

I think it no more than just that though we are excluded from European politics as such, we should claim the especial right of taking the initiative where manity is in question.

Among the European consuls resident here, the Russian, Italian and Greek have taken a noble position in reproof of the government.

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I sincerely hope that our government may be disposed to strain international law to its farthest, to help a people suffering undeservedly such horrors and injustice as we see now in Crete.

Yours most respectfully,

W. J. STILLMAN,
United States Consul, Crete.

Hon. WILLIAM H. SEWARD,
Secretary of State.

Mr. Morris to Mr. Seward.

[Extract.]

No. 179.] LEGATION OF THE UNITED STATES OF AMERICA,
Constantinople, November 22, 1866.

SIR : I have received the enclosed declaration on the part of the leaders of the revolutionary movement in the island of Candia, which I deem it my duty to transmit to the department. Notwithstanding the telegraphic reports to the contrary, systematically disseminated over Europe by the Turkish government, the insurrection in Crete continues in full vigor, and the island has neither submitted nor shown any signs of submission. To all appearance the struggle will be protracted through the winter. In this case it will lead to similar movements elsewhere—particularly in Thessaly and Albania—which will put in jeopardy the integrity if not the existence of the Turkish empire. A dangerous ferment

exists generally in the provinces in which the Greek population is in the ascendancy, and serious preparations are evidently making by that class of the Sultan's subjects to throw off the Ottoman yoke. Volunteers, arms, and relief of all kinds are pouring into Crete, and it would seem as if the struggle there is regarded as a breach by which all the enemies of Turkey may hope to penetrate into and overthrow the empire.

The application for relief to their families made by the Cretans in the enclosed address is very natural. Their wives and children are perishing from want, cold, and other sufferings incident to the rigors of winter and of war, I may say, by hundreds. Common humanity justifies their relief, non-combatants as they are. If an American merchant vessel were sent to their relief, I am sure the Turkish government would not object to their being carried away to Greece. It would be a noble act of Christian charity if the United States government would authorize me by telegraph to employ such a vessel for such a purpose, or if it would give equivalent instructions to Admiral Goldsborough.

* * * * *

I am, with great respect, your obedient servant,

E. JOY MORRIS.

Hon. WILLIAM H. SEWARD,
Secretary of State.

CANDIA, (APOCORONA,) *November 9, 1866.*

EXCELLENCY: The people of Candia have several times taken up arms to throw off the Ottoman yoke, which prevents them from following the march of modern civilization.

From 1821 to 1830 they followed the war of Hellenic independence with exemplary patience and courage. Unfortunately, diplomacy separated Crete from emancipated Greece and placed it under the government of Mehemet Ali, with the stipulation that its people should not be subjected to the same treatment as the rayas, (native subjects.) This condition having been violated, the Candiotes convoked a general assembly in 1833, and addressed a formal protest to the great powers. The result was the hanging of the most distinguished men of the island.

In 1841 the people, being unable any longer to suffer the daily increasing acts of violence, took up arms again, and demanded of Europe their annexation with the Hellenic government. On this occasion, also, diplomacy turned them a deaf ear.

In 1858, the principles of the Hatti Humayoum not having been put in execution, another appeal to arms was made, and after great effort we gained in writing some of the privileges of this imperial charter. This pledge, however, having been as little respected as previous ones, the people of Candia sent a protest to the Turkish government, to which the Sultan replied that he was not bound by the decisions of his predecessors.

In 1866 our sufferings reached their climax, and the people again presented their complaints to the Porte against the insupportable tyranny to which they were subjected. Instead of taking them into consideration the Sultan sent troops to the island, who, according to their custom, massacred women, children, and the aged, and burned the villages. It was only after this that the people flew to arms to defend their honor and their lives, and they are resolved to perish rather than again to submit.

Notwithstanding the victories which the Candiotes have obtained over the Ottomans, (at Bresses, Vamon, Allegans, Therissori, Candanas, Retimo, &c.,) Mustapha Pasha has circulated the report that the island will be soon subdued. We take the liberty of assuring your excellency that the Candiotes have taken

a firm resolution to terminate this struggle by liberty or death! and that all the reports to the contrary disseminated by the Turks are entirely false.

What afflicts and touches us the most acutely is, that our families are wandering in the mountains, exposed to the cold of winter and the cruelty of the barbarians. We most respectfully implore the Christian powers to come to their aid.

Awaiting a favorable answer, we have the honor to be your most humble and obedient servants,

The general assembly of the people of Candia,

[SEAL.]

[Signatures some twenty.]

Mr. Stillman to Mr. Seward.

No. 33.]

UNITED STATES CONSULATE,
Canca, November 26, 1866.

SIR: I have the honor to inform you that an important battle took place four days since at Arkadi, in the central district of this island, in which the Turkish troops seem, from the best information I can gather from contradictory and confused accounts, to have suffered a terrible disaster; being drawn over mines prepared by Coroneos, who commanded the Christians, and having great numbers destroyed by the explosion. According to the admissions of officers in the Turkish service, four battalions and nearly the whole Arnout force (1,000 strong) were put *hors de combat*. A steamer has arrived here loaded with wounded, the captain of which reports the city of Retimo crowded with the wounded, and that the pacha had retreated to that city.

I will inform you by next post of the affair more exactly and fully.

Yours respectfully,

W. J. STILLMAN,
United States Consul, Crete.

Hon. W. H. SEWARD,
Secretary of State.

Mr. Seward to Mr. Morris.

DEPARTMENT OF STATE,
Washington, November 28, 1866.

SIR: Your despatch of the 2d instant, No. 174, has been received. I thank you for the interesting information it furnishes concerning the progress of the attempted revolution in Candia. If your estimates of the revolutionary and counter-revolutionary forces are at all just, great military and political events may be expected soon to occur in the east; such events, indeed, as would be regarded in a European view as the reopening of the eastern question. It is observed thus far the western powers of that continent are passive. The states interested are manifestly engaged with political problems which have arisen nearer home. Hitherto, also, the civil war in Candia has not largely moved the public mind in the United States. I think nothing need now be said by me in that connection, except that it is probable that we shall place a proper diplomatic representative in Greece.

I am, sir, your obedient servant,

WILLIAM H. SEWARD.

E. JOY MORRIS, Esq., &c., &c.,
Constantinople.

Mr. Morris to Mr. Seward.

No. 180.]

LEGATION OF UNITED STATES OF AMERICA,
Constantinople, November 28, 1866.

SIR: I regret to have to report that the situation of affairs here is daily becoming more critical. The insurrection in Crete, notwithstanding the systematised telegraphic assertions of the pacification of the island, continues in full vigor; and recently the Turkish troops have suffered a severe repulse from the insurgents, with large losses in men and army stores. Hardly a week passes that is not marked by the arrival of 400 or 500 volunteers to the Cretan army of liberation from Greece. The steamer *Panhellenion* has thus far made five successful trips from the island of Syra to Crete, on each occasion being loaded to her utmost capacity with volunteers, arms, ammunition and provisions. Measures, I understand, have been adopted for the transportation of 500 men every week from Greece to Crete, as long as the insurrection is kept up, and money and munitions of war, clothing and provisions are being landed in profusion every week at Syra by steamers from England, for the use of the insurgents. It is evident that the Cretans are most generously supported by the Greeks outside of Greece and Turkey, and that the struggle in Crete is regarded as one in which the whole Greek race has an interest.

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I am, sir, with great respect, your obedient servant,

E. JOY MORRIS

Hon. WILLIAM H. SEWARD.

Secretary of State.

Mr. Morris to Mr. Seward.

No. 182.]

UNITED STATES LEGATION,
Constantinople, November 31, 1866.

SIR: By a letter just received from Syra, I learn that the Turkish troops have met with a great disaster in Crete. Coroneos, commanding 1,000 Cretans, had established himself in the convent of Arkadi, which he had strongly fortified. Here, for eighteen hours, he held at bay some 10,000 Turks. Unable, however, to continue the resistance, he made a hurried retreat from the convent, having first undermined the building, and left a priest with a lighted torch to fire the mines. On the retreat of the Greeks, the Turks rushed into the edifice, when the mines exploded, blowing over 2,000 into the air, and dreadfully mangling and wounding 1,500.

This news has produced great excitement here, and I fear will lead to a rupture of relations, if not to war, between Turkey and Greece, as Coroneos is an officer of the regular army of Greece, and volunteers, arms and ammunition are constantly being sent over to Crete from Greece. The struggle is evidently not at an end, as the Porte and the English and French embassies have given the world to understand: * * * * *

I am, sir, very respectfully, your obedient servant,

E. JOY MORRIS.

Hon. WILLIAM H. SEWARD,

Secretary of State.

Mr. Stillman to Mr. Seward.

No. 34.]

UNITED STATES CONSULATE,
Canea, December 3, 1866.

SIR: I have the honor to report that the insurrection seems to be gaining strength, both by better organization among the Cretans and by arrival of assistance from without, and that from present indications it is likely to hold on through the winter at least.

The affair of Arkadi, of which I wrote you last week, appears in a different but more tragic light by the new and more reliable information which we have of it, and to obtain which I had dispatched my dragoman to Retimo. It seems that there were in the convent and its fortified enclosure, built by the Venetians 300 years ago, 540 souls, of whom 343 were women and children. It was attacked by Mustapha Pasha, in person, with 16,000 men, Turkish and Egyptian regulars, and Cretan and Albanian Musselmans, with twenty-six guns and two mortars. The third day the great gate was breached and the place assaulted, and after a fight within the enclosure of six hours the Christians fired their magazine, and blew up every body in the convent with the exception of thirty-nine men and sixty-one women and children, who were in a distant part of the buildings, and escaped a death which all preferred to being taken prisoners by the Turks.

From what I believe to be reliable information, the total losses of the Turkish troops will not be less than 3,000 men of all descriptions.

The religious hostility appears to be increasing, and even the intense sufferings of the houseless and famishing families will not oblige the Cretans to submit. A widow and her son, a young man of twenty, who lately came in and took the protection of the government, were a few days ago attacked near Canea, when going to their house in one of the adjoining villages, and the son killed and decapitated, and the mother left mortally wounded.

Not long since another case was reported to me of a family coming down to accept the protection accorded—father, mother, and three daughters—of whom the parents were killed, and the daughters violated by the soldiers.

It seems to me a grievous fault in the policy of the civilized nations of the world that some means are not taken to rescue these innocent victims of the brutality of Mahomedan fanatics from the fate which seems to befall those who submit as well as those who resist.

Two more debarkations of volunteers have been effected since my last advices, bringing with them artillery and a printing press.

Yours, most respectfully,

W. J. STILLMAN,
U. S. Consul, Canea.

HON. WILLIAM H. SEWARD,
Secretary of State.

[Confidential.]

NEW ORLEANS, *December 31, 1866.*

SIR: The events which are passing in the island of Candia, in the Mediterranean sea, during the last four months, must have attracted the attention of the United States government as well as of all civilized nations. The Candiot or Cretans, driven to desperation by the tyrannical yoke of the Turkish government, who turned a deaf ear to their just demands, made in a most respectful manner, have been obliged to take up arms for the defence of their sacred rights of person and property, and swore never to lay them down until they conquer their independence and free themselves of the Ottoman yoke.

In answer to their petitions, the Sublime Porte landed in Candia 45,000 Turkish and Egyptian troops, under the supreme command of Mustapha Pacha, who is invested with most unlimited powers by his sovereign, provided he effects again the subjugation of Candia. Fifteen Turkish men-of-war blockade the island by sea.

To this large Turkish force of 45,000, the Candiotes have hardly opposed 10,000 men; but, notwithstanding this disparity of numbers, the Candiotes have so far been successful in every engagement they had with the enemy, save one, on October 24, when 1,000 Cretans, being attacked by 15,000 Turks, were obliged to retreat in good order after a stubborn fight of six hours.

The brilliant successes of the Cretans could not fail to exasperate to the utmost degree Mustapha Pacha. He changed their tactics, and, instead of attacking the armed rebels, he began by murdering inoffensive women, children, and old men, burning villages by wholesale, devastating the country, profanating the churches, outraging the women, and allowing his fierce soldiers to commit every crime worthy of the dark ages.

It is not my purpose to enumerate such horrible crimes in this communication. The different agents of the United States government in the Mediterranean ports keep your excellency, without doubt, well informed of the fearful drama which is taking place in Candia. The conduct of those agents towards the Christians is worthy of the magnanimous Christian nation which they represent, and is in striking contrast with that of their colleagues of other Christian nations, (with one exception,) who show the most supreme indifference to the intense sufferings of the Candiote families who seek their protection.

In such a state of affairs, and the jealousy of the great European powers towards each other for the inheritance of the "sick man" of Constantinople, the Candiotes have naturally turned their eyes to this country, which, coming out victorious after one of the most gigantic struggles the world has ever seen, is justly considered abroad as representing those very principles of Christianity, liberty, and good laws, under an enlightened government, for which they fight against their despots and are making such sublime sacrifices.

In order to compel the Candiotes to capitulation and submission, the Turks are committing unheard of atrocities towards the Christian families who are left helpless and houseless after the burning of their villages, and are exposed to the cold and hunger in this season of the year. Many of these families are endeavoring to leave the island and seek refuge to Greece, but the Turks strenuously forbid them to leave the country, and hundreds of women and children are perishing by starvation and exposure.

In bringing these facts thus briefly to the notice of the United States government I cherish the hope that it cannot any longer remain indifferent and passive spectators to the sufferings of a gallant Christian people, who have already sought its sympathy and help. The generous conduct of the people of this country towards the Greeks during their war for independence in 1821-'27, the humanity they have shown in later years towards the Irish during the famine, the inhabitants of Madeira, and the Syrians after the massacre by the Druses, are events which history has engraved in golden letters and raised the fame of the American nation. To these feelings of your people I now make appeal, in the name of Christianity and humanity. There is no question to make war against the Turks. To help the hundreds of oppressed families to leave the island of Candia by facilitating their transport to Greece would be an invaluable boon to those who are shedding their blood for their native land. The presence only of an American squadron in the Candian waters, commanded by one of your gallant admirals, would be highly beneficial to the Christians, and would greatly diminish the outrages which the Turks are now committing with impunity in the presence of those who represent modern civilization, while it would

greatly increase the prestige of the American name among the Christians of the East, who hail always the presence of the Stars and Stripes in those waters as the emblem of liberty and civilization.

I have the honor to be, with the highest consideration, sir, your most obedient humble servant,

D. N. BOTASSI,
Consul of Greece in New York.

P. S. Having to spend the winter in New Orleans on account of my health, I will be very much obliged to your excellency to send me your communications to this city directed in my name.

D. N. B.

Hon. WILLIAM H. SEWARD,
Secretary of State, Washington, D. C.

IMMIGRATION.

LETTER

FROM

THE SECRETARY OF STATE,

TRANSMITTING

A report of the Commissioner of Immigration of the foreign immigration and of the expenditures of the bureau for the first three quarters of the year 1866.

JANUARY 14, 1867.—Referred to the Committee on Commerce and ordered to be printed.

DEPARTMENT OF STATE,

Washington, December 20, 1866.

SIR: In compliance with section 6 of the act "to encourage immigration," approved July 4, 1864, I have the honor to submit to you a detailed report of the Commissioner of Immigration of the foreign immigration and of the expenditures of the Bureau of Immigration for the first three quarters of the year 1866. Owing to the fact that the returns from collectors for the quarter ending December 31 are not, and indeed cannot be, received until some time after the annual meeting of Congress, the Commissioner of Immigration finds it necessary, in order to comply with the requirements of the section referred to, to limit his annual reports for the future to the first three quarters of the current year in which the session begins, and the last quarter of the year preceding. The final quarter for the year 1865 was embraced in the Commissioner's annual report for that year, and the present report therefore includes only the first three quarters of the present year.

The report now submitted also contains statements, as required by section 13 of the act of Congress to regulate the carriage of passengers in steamships and other vessels, approved March 3, 1855, of the number, age, sex, and occupation of passengers who arrived by sea from foreign countries during the first three quarters of the year 1866, together with the country in which they were born, the part of the country in which they mean to reside, and the number that died on the voyage.

These statements have been carefully compiled from returns made to this department by collectors of the customs, pursuant to the provisions of said section.

I have the honor to be, sir, your obedient servant,

WILLIAM H. SEWARD.

The SPEAKER of the House of Representatives.

DEPARTMENT OF STATE, BUREAU OF IMMIGRATION.

Washington, December 20, 1866.

SIR: In compliance with the requirements of the act of Congress entitled "An act to encourage immigration," approved July 4, 1864, I submit a detailed report of the foreign immigration during the first three quarters of the present year, and an account of all expenditures for the same period under the said act.

I have the honor to be, sir, your obedient servant,

R. S. CHILTON, *Commissioner.*

The SPEAKER *of the House of Representatives.*

STATEMENT
OF THE
NUMBER AND DESIGNATION OF PASSENGERS
ARRIVING IN
THE UNITED STATES ON SHIPBOARD DURING THE FIRST THREE
QUARTERS OF THE YEAR 1866.

Statement of the number and designation of passengers

[illegible]

Statement of the number and designation of passengers

[illegible]

Statement of the number and designation of passengers

Custom-house, with the name of the collector, and date.	Occupations.	Males.	Females.	Males under 5 years of age.	Females under 5 years of age.	Males from 5 and under 10 years.	Females from 5 and under 10 years.	Males from 10 and under 15 years.	Females from 10 and under 15 years.	Males from 15 and under 20 years.	Females from 15 and under 20 years.	Males from 20 and under 25 years.	Females from 20 and under 25 years.	Males from 25 and under 30 years.	Females from 25 and under 30 years.
MASSACHUSETTS.															
<i>District of Salem and Beverly—Cont'd.</i>															
Quarter ending June 30, 1866.	No report														
Quarter ending Sept. 30, 1866.	Laborers	6													
	Servants		11												
		6	11												
<i>Dist. of Marblehead, Wm. Stanley, collector.</i>															
Quarter ending Mar. 31, 1866.	No arrivals														
Quarter ending June 30, 1866.	Not stated	5	1									1	1	1	
Quarter ending Sept. 30, 1866.	Not stated	4	3								1	2	1		
<i>District of Boston and Charlestown, Hannibal Hamlin, collector.</i>															
Quarter ending Mar. 31, 1866.	Army	12													
	Bakers	2													
	Bankers	4													
	Brewers	2													
	Butcher	1													
	Chemists	2													
	Clerks	28													
	Clergymen	5													
	Courier	1													
	Dressmakers		4												
	Druggist	1													
	Editor	1													
	Engineers	9													
	Farmers	31													
	Fishermen	7													
	Geologist	1													
	Laborers	418													
	Lawyers	6													
	Mariners	93													
	Manufacturers	5													
	Mechanics	53													
	Merchants	240													
	Milliner		1												
	Miners	19													
	Musicians	3													
	Navy	3													
	News agent	1													
	Painters	6													
	Physicians	6													
	Printer	1													
	Seamtresses		3												
	Shoemakers	7													
	Showman	1													
	Spinsters		171												
	Students	8													
	Surgeons	5													
	Tailors	3													
	Teamster	1													
	Not stated	316	338												
		1302	517	39	57	34	38	17	25	90	69	358	132	266	75

arriving in the United States, &c.—Continued.

Males from 30 and under 35 years.	Females from 30 and under 35 years.	Males from 35 and under 40 years.	Females from 35 and under 40 years.	Males upwards of 40 years of age.	Females upwards of 40 years of age.	Age or sex not stated.	Country to which they belong.	Males.	Females.	Total.	Country in which they mean to reside.	Males.	Females.	Total.	Died on the voyage.
							Nova Scotia	6	11	17	United States ..	6	11	17	
								6	11	17		6	11	17	
1		1		1			Nova Scotia	5	1	6	United States ..	5	1	6	
				2	1			4	3	7		4	3	7	
							Austria	3		3	Canada	70	5	75	
							Bavaria	2		2	Cuba	1		1	
							Canada	26	4	30	Cape Breton ..	5	1	6	
							Cape Breton	5	1	6	China	5		5	
							Cape de Verde Isl'ds	1		1	England	18		18	
							China	5		5	France	2		2	
							Cuba	1		1	Germany	1		1	
							England	135	39	174	Great Britain ..	22	3	25	
							France	7		7	New Brunswick	7		7	
							Germany	19	7	26	Newfoundland.	3	3	6	
							Great Britain	288	147	435	Not stated ..	52	21	73	
							Hungary	2		2	Peru	1	1	2	
							India	5	5	10	Scotland	1		1	
							Ireland	239	107	346	Nova Scotia ..	122	34	156	
							Italy	2	2	4	Switzerland ..	1		1	
							New Brunswick	5		5	United States ..	990	449	1439	
							Newfoundland.	7	4	11	West Indies ..	1		1	
							Not stated	53	45	98					
							Nova Scotia	235	79	314					
							Peru	1		1					
							P. Edward's Island.	2	3	5					
							Prussia	5		5					
							Scotland	23	5	28					
							Spain	2		2					
							Surinam		1	1					
							Sweden	4		4					
							Switzerland	3		3					
							United States	220	67	287					
							West Indies	2		2					
159	46	107	20	232	52	3		1302	517	1819		1302	517	1819	

arriving in the United States, &c.—Continued.

Males from 30 and under 35 years.	Females from 30 and under 35 years.	Males from 35 and under 40 years.	Females from 35 and under 40 years.	Males upwards of 40 years of age.	Females upwards of 40 years of age.	Age or sex not stated.	Country to which they belong.	Males.	Females.	Total.	Country in which they mean to reside.	Males.	Females.	Total.	Died on the voyage.
							Denmark	2		2	Greece	1		1	
							Egypt	1	3	4	Hayti	1	3	4	
							England	249	123	372	Ireland	2		2	
							France	12	11	23	Japan	2		2	
							Germany	229	88	317	Mexico	1		1	
							Great Britain	617	590	1207	New Brunswick	5	3	8	
							Greece	2		2	Norway	1		1	
							Hayti	1	3	4	Not stated	86	64	150	
							Hungary	2		2	Nova Scotia	278	231	509	
							India		1	1	Peru	2		2	
							Japan	2		2	Poland	1		1	
							Ireland	400	391	791	P. Edward's Isl.	2	5	7	
							Italy	1	1	2	Prussia	1	1	2	
							Mexico	1		1	Spain	1		1	
							New Brunswick	18	9	27	St. Domingo	1		1	
							Newfoundland	46	55	101	Sweden	2	1	3	
							New Zealand	1		1	United States	2883	2430	5303	
							Not stated	21	21	42	West Indies	3		3	
							Norway	14	4	18					
							Nova Scotia	559	643	1202					
							Peru	2		2					
							Poland	1		1					
							Portugal	141	59	200					
							P. Edward's Isl'd.	26	89	115					
							Prussia	11	3	14					
							Russia	1	2	3					
							Saxony		1	1					
							Scotland	28	11	39					
							Spain	5		5					
							St. Helena	1	1	2					
							St. Domingo	1	1	2					
							Sweden	3	1	4					
							Switzerland	1		1					
							Turkey	4	1	5					
							United States	851	547	1398					
							Wales	1		1					
							West Indies	8	2	10					
368	223	294	141	595	365	4441		3428	2797	6225		3428	2797	6225	

Statement of the number and designation of passengers

[illegible]

arriving in the United States, &c.—Continued.

Males from 30 and under 35 years.	Females from 30 and under 35 years.	Males from 35 and under 40 years.	Females from 35 and under 40 years.	Males upwards of 40 years of age.	Females upwards of 40 years of age.	Age or sex not stated.	Country to which they belong.	Males.	Females.	Total.	Country in which they mean to reside.	Males.	Females.	Total.	Died on the voyage.
							Brit. Provinces..	7	19	26	United States..	7	19	26	
							Cuba..	1		1	United States..	1		1	
							do.....	2		2	do.....	2		2	
1				1				3		3		3		3	
							United States....	1		1	United States..	1		1	
							do.....	1		1	do.....	1		1	
							do.....	1		1	do.....	1		1	
		1		1				3		3		3		3	
							Cuba	1		1	United States..	1		1	
							do.....	1		1	do.....	1		1	
1								2		2		2		2	
							Porto Rico	1		1	United States..	1		1	

Statement of the number and designation of passengers

[illegible]

arriving in the United States, &c.—Continued.

Males from 30 and under 35 years.	Females from 30 and under 35 years.	Males from 35 and under 40 years.	Females from 35 and under 40 years.	Males upwards of 40 years of age.	Females upwards of 40 years of age.	Age or sex not stated.	Country to which they belong.	Males.	Females.	Total.	Country in which they mean to reside.	Males.	Females.	Total.	Died on the voyage.
							United States....	8	1	9	United States..	9	1	10	...
							Denmark	1	.....	1					
				3				9	1	10		9	1	10	...
							Mayaguez	1	5	6	Mayaguez ...	1	5	6	...
							Barbadoes	3	7	10	Canada	1	6	7	...
							St. Croix	1	.....	1	United States..	4	.....	4	...
							United States....	1	.....	1	St. Croix.....	1	.....	1	...
								7	11	18		7	11	18	...
						15	Canada	188	96	284	Canada	188	96	284	...
							Not stated			15	Not stated			15	...
							United States....	64	42	106	United States..	64	42	106	...
						15		252	138	405		252	138	405	...

Statement of the number and designation of passengers

[illegible]

Statement of the number and designation of passengers

[illegible]

arriving in the United States, &c.—Continued.

Males from 30 and under 35 years.	Females from 30 and under 35 years.	Males from 35 and under 40 years.	Females from 35 and under 40 years.	Males upwards of 40 years of age.	Females upwards of 40 years of age.	Age or sex not stated.	Country to which they belong.	Males.	Females.	Total.	Country in which they mean to reside.	Males.	Females.	Total.	Died on the voyage.
							France.....	545	211	.....				
							Spain.....	54	9	.....				
							Italy.....	143	74	.....				
							Germany.....	9362	4488	.....				
							Russia.....	24	11	.....				
							Prussia.....	280	174	.....				
							Poland.....	44	11	.....				
							Denmark.....	57	25	.....				
							Holland.....	43	17	.....				
							Belgium.....	63	24	.....				
							Sweden.....	16	.....	.....			
							British Provinces.	40	7	.....				
							West India.....	18	4	.....				
							Cuba.....	9	1	.....				
							South America.....	51	4	.....				
							China.....	1	.....	.....			
							Mexico.....	32	8	.....				
							Switzerland.....	287	121	.....				
							Hungary.....	11	6	.....				
							Austria.....	1	.....	.....			
							Turkey.....	6	.....	.....			
							Africa.....	1	7	.....				
							United States.....	5052	1141	.....	United States..	25930	11025	.....	..
3349	972	2060	541	3392	1227	.....	.....	25930	11025	36955	.....	25930	11025	36955	..
							Great Britain.....	27742	17876	.....				
							France.....	1110	560	.....				
							Portugal.....	3	.....	.....			
							Spain.....	113	32	.....				
							Italy.....	167	55	.....				
							Germany.....	22338	13686	.....				
							Russia.....	26	7	.....				
							Prussia.....	1276	698	.....				
							Poland.....	27	29	.....				
							Denmark.....	209	64	.....				
							Holland.....	520	387	.....				
							Belgium.....	110	64	.....				
							Norway.....	41	14	.....				
							Sweden.....	219	102	.....				
							Brit. Provinces.....	41	9	.....				
							West Indies.....	86	42	.....				
							Cuba.....	55	30	.....				
							South America.....	50	24	.....				
							China.....	3	.....	.....			
							Mexico.....	28	4	.....				
							Switzerland.....	939	500	.....				
							Hungary.....	2	.....	.....			
							Turkey.....	1	.....	.....			
							Africa.....	6	.....	.....			
							United States.....	6741	2600	.....	United States..	61855	36783	.....	..
6577	2784	3756	1618	6652	4144	.....	.....	61855	36783	98678	.....	61855	36783	98678	..
							Great Britain.....	18507	12972	.....				
							France.....	1146	514	.....				
							Spain.....	169	52	.....				
							Italy.....	237	104	.....				
							Germany.....	14243	8382	.....				
							Russia.....	57	23	.....				
							Prussia.....	698	416	.....				
							Poland.....	27	16	.....				
							Denmark.....	585	492	.....				

Statement of the number and designation of passengers

[illegible]

arriving in the United States, &c.—Continued.

[illegible]

arriving in the United States, &c.—Continued.

Males from 30 and under 35 years.	Females from 30 and under 35 years.	Males from 35 and under 40 years.	Females from 35 and under 40 years.	Males upwards of 40 years of age.	Females upwards of 40 years of age.	Age or sex not stated.	Country to which they belong.	Males.	Females.	Total.	Country in which they mean to reside.	Males.	Females.	Total.	Died on the voyage.
							Bremen	6	.....	6					
							Cuba	1	.....	1					
							Italy	1	.....	1					
74	50	30	16	80	76			1014	865	1879		1014	865	1879	...
							Ireland	236	308	544	United States..	285	325	.....	...
							Wales	7	1	8					
							England	25	15	40					
							Germany	4	.....	.....			
							Poland	5	.....	.....			
							Italy	1	.....	.....			
							Dan. West Indies.	.....	1	.....				
							Scotland	1	.....	.....			
							Sweden	1	.....	.....			
							France	1	.....	.....			
							Brit. West Indies.	1	.....	.....			
							Holland	1	.....	.....			

Statement of the number and designation of passengers

Custom-house, with the name of the col- lector, and date.	Occupations.	Males.	Females.	Males under 5 years of age.	Females under 5 years of age.	Males from 5 and under 10 years.	Females from 5 and un- der 10 years.	Males from 10 and un- der 15 years.	Females from 10 and under 15 years.	Males from 15 and un- der 20 years.	Females from 15 and under 20 years.	Males from 20 and un- der 25 years.	Females from 20 and under 25 years.	Males from 25 and un- der 30 years.	Females from 25 and under 30 years.
PENNSYLVANIA.															
<i>District of Philadel- phia—Cont'd.</i>															
Quarter ending Sept. 30, 1866—Cont'd.	Baker	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Sailor	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Peddler	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Agent	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Saddler	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Overlooker	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Wool-sorter . . .	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
		285	325	30	27	19	22	10	17	40	72	86	95	35	30
<i>District of Presque Island, Thos. Wil- kins, collector.</i>															
Quarter ending Mar. 31, 1866.	No arrivals.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Quarter ending June 30, 1866.	Farmers.....	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Carpenters.....	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Printers.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Dressmaker.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Machinist.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Lumbermen.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
		15	1	.....	.....	.....	.....	.....	.....	.....	.....	12	1	.....	.....
Quarter ending Sept. 30, 1866.	Farmers.....	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Lumberman.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Milliner.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Carpenters.....	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Ministers.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
		9	1	.....	.....	.....	.....	.....	.....	.....	.....	6	1	2	.....
DELAWARE.															
<i>District of Wilming- ton, T. M. Rodney, collector.</i>															
Quarter ending Mar. 31, 1866.	No arrivals.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Quarter ending June 30, 1866.	No arrivals.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Quarter ending Sept. 30, 1866.	No arrivals.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
MARYLAND.															
<i>District of Baltimore, Edwin H. Webster, collector.</i>															
Quarter ending Mar. 31, 1866.	Bakers.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Blacksmiths.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Butcher.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Cabinetmakers.....	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Carpenters.....	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Clergyman.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Clerks.....	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Cooper.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Farmers.....	11	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Statement of the number and designation of passengers

Custom-house, with the name of the collector, and date.	Occupations.	Males.	Females.	Males under 5 years of age.	Females under 5 years of age.	Males from 5 and under 10 years.	Females from 5 and under 10 years.	Males from 10 and under 15 years.	Females from 10 and under 15 years.	Males from 15 and under 20 years.	Females from 15 and under 20 years.	Males from 20 and under 25 years.	Females from 20 and under 25 years.	Males from 25 and under 30 years.	Females from 25 and under 30 years.
MARYLAND.															
Dist. of Baltimore—Continued.															
Quarter ending Mar. 31, 1866—Cont'd.	Gardeners	3													
	Hotel-keeper . . .	1													
	Laborers	149													
	Locksmith	1													
	Machinists	2													
	Mariners	2													
	Masons	2													
	Merchants	10													
	Music dealer . . .	1													
	Physicians	2													
	Potter	1													
	Saddler	1													
	Servant	1													
	Tailors	11													
	Tanner	1													
	Teacher	1													
	Weavers	2													
	Wheelwrights . . .	2													
	Shoemakers	4													
	Not stated	81	150												
		312	150	20	17	16	17	18	12	29	16	60	23	56	18
Quarter ending June 30, 1866.	Seamen	3													
	Servants	3	69												
	Shoemakers	77													
	Skinner	1													
	Soap-maker	1													
	Soldier	1													
	Stonecutters . . .	3													
	Tailors	59													
	Farmers	4													
	Teachers	2													
	Tinker	1													
	Tinners	4													
	Turners	6													
	Upholsterers . . .	1													
	Varnisher	1													
	Watchmakers . . .	2													
	Weavers	36													
	Wheelwrights . . .	3													
	Not stated	685	1410												
	Agent	1													
	Apothecary	1													
	Artists	4													
	Bakers	28													
	Barbers	4													
	Basket-makers . . .	3													
	Blacksmiths	42													
	Bookbinders	3													
	Brewers	16													
	Brick-makers	2													
	Butchers	7													
	Butler	1													
	Cabinetmakers . . .	7													
	Cigar-makers	8													
	Clergyman	1													
	Carpenters	39													
	Clerks	19													
	Carriage-mak's . . .	2													
	Cloth-makers	2													
	Coach-makers	3													
	Comb-maker	1													
	Confectioner	1													
	Coopers	3													
	Coppersmith	1													

arriving in the United States, &c.—Continued.

Males from 30 and under 35 years.	Females from 30 and under 35 years.	Males from 35 and under 40 years.	Females from 35 and under 40 years.	Males upwards of 40 years of age.	Females upwards of 40 years of age.	Age or sex not stated.	Country to which they belong.	Males.	Females.	Total.	Country in which they mean to reside.	Males.	Females.	Total.	Died on the voyage.
33	15	25	12	54	20	9	.....	312	150	471	.....	312	150	471	....
.....	United States.....	66	19	.....	United States..	2083	1488	.....	.....
.....	Ireland.....	238	161	.....	Mexico.....	2	.....	.....	.....
.....	England.....	49	26	.....	England.....	1	.....	.....	.....
.....	Brit. West Indies.	.....	.....	.....	Not stated.....	.....	.....	75	.....
.....	Scotland.....	4	3	.....	.....	.....	.....	.....	.....
.....	Wales.....	7	3	.....	.....	.....	.....	.....	.....
.....	Mexico.....	2	1	.....	.....	.....	.....	.....	.....
.....	Spain.....	.....	.....	.....	.....	.....	.....	.....	.....
.....	Germany.....	1716	1269	.....	.....	.....	.....	.....	.....
.....	Jamaica.....	.....	2	.....	.....	.....	.....	.....	.....
.....	Italy.....	1	2	.....	.....	.....	.....	.....	.....
.....	Cuba.....	2	2	.....	.....	.....	.....	.....	.....
.....	Brazil.....	1	.....	.....	.....	.....	.....	.....	.....
.....	Not stated.....	.....	.....	75	.....	.....	.....	.....	.....

arriving in the United States, &c.—Continued.

Males from 30 and under 35 years.	Females from 30 and under 35 years.	Males from 35 and under 40 years.	Females from 35 and under 40 years.	Males upwards of 40 years of age.	Females upwards of 40 years of age.	Age or sex not stated.	Country to which they belong.	Males.	Females.	Total.	Country in which they mean to reside.	Males.	Females.	Total.	Died on the voyage.
233	120	127	55	233	176	75		2086	1488	3649		2086	1488	3649	...
							United States.....	34	13	.....	United States..	1435	897	.....	4
							Germany.....	1180	752	.....	Not stated.....			24	...
							Spain.....	8	3	.....				
							Great Britain.....	4	3	.....				
							Mexico.....	1		.....				
							France.....	6	3	.....				
							England.....	90	51	.....				
							Ireland.....	106	69	.....				
							Wales.....	3		.....				
							Scotland.....	1		.....				
							British Guiana.....	1	3	.....				
							Madeira.....	1		.....				
							Not stated.....			24					

arriving in the United States, &c.—Continued.

Males from 30 and under 35 years.	Females from 30 and under 35 years.	Males from 35 and under 40 years.	Females from 35 and under 40 years.	Males upwards of 40 years of age.	Females upwards of 40 years of age.	Age or sex not stated.
Country to which they belong.						
Males.						
Females.						
Total.						
Country in which they mean to reside.						
Males.						
Females.						
Total.						
Died on the voyage.						

Statement of the number and designation of passengers

[illegible]

Statement of the number and designation of passengers

[illegible]

arriving in the United States, &c.—Continued.

Males from 30 and under 35 years.	Females from 30 and under 35 years.	Males from 35 and under 40 years.	Females from 35 and under 40 years.	Males upwards of 40 years of age.	Females upwards of 40 years of age.	Age or sex not stated.
Country to which they belong.						
Males.						
Females.						
Total.						
Country in which they mean to reside.						
Males.						
Females.						
Total.						
Died on the voyage.						

Statement of the number and designation of passengers

Custom-house, with the name of the col- lector, and date.	Occupations.	Males.	Females. Males under 5 years of age. Females under 5 years of age. Males from 5 and under 10 years. Females from 5 and un- der 10 years. Males from 10 and un- der 15 years. Females from 10 and under 15 years. Males from 15 and un- der 20 years. Females from 15 and under 20 years. Males from 20 and un- der 25 years. Females from 20 and under 25 years. Males from 25 and un- der 30 years. Females from 25 and under 30 years.
NORTH CAROLINA.			
District of Camden—Continued.			
Quarter ending June 30, 1866.	No report.....		
Quarter ending Sept. 30, 1866.	No report.....		
SOUTH CAROLINA.			
District of Beaufort, James L. Barnwell, collector.			
Quarter ending Mar. 31, 1866.	No arrivals.....		
Quarter ending June 30, 1866.	No arrivals.....		
Quarter ending Sept. 30, 1866.	No arrivals.....		
Dist. of Georgetown, W. S. Croft, col- lector.			
Quarter ending Mar. 31, 1866.	No arrivals.....		
Quarter ending June 30, 1866.	No arrivals.....		
Quarter ending Sept. 30, 1866.	No arrivals.....		
District of Charles- ton, N. G. Mackey, collector.			
Quarter ending Mar. 31, 1866.	Merchants Mechanics Masons Engineer Seamen Photographer... Gentlemen Jeweller Banker Servants Ladies	8 5 2 1 11 1 2 1 1 3 11	
		35	11
Quarter ending June 30, 1866.	Clerk Laborers	1 4	
		5	
Quarter ending Sept. 30, 1866.	Clerks Students Sailors Book-keeper ... Farmers Joiners Surveyor	2 1 2 1 2 2 1	

arriving in the United States, &c.—Continued.

Males from 30 and under 35 years.	Females from 30 and under 35 years.	Males from 35 and under 40 years.	Females from 35 and under 40 years.	Males upwards of 40 years of age.	Females upwards of 40 years of age.	Age or sex not stated.	Country to which they belong.	Males.	Females.	Total.	Country in which they mean to reside.	Males.	Females.	Total.	Died on the voyage.
							Bremen	1			United States..				
							Malta	1	2						
							Prussia	2							
							Barcelona	1							
							Scotland	6	4						
103	33	122	22	153	32	27		953	319	1272		953	319	1272	
							Cuba	11	1		United States..	1104	466		
							United States.	356	143						
							France	145	44						
							Mexico	17	2						
							Jamaica		1						
							Hindustan	3	2						
							Italy	128	76						
							Spain	22							
							England	46	31						
							Germany	244	94						
							Ireland	87	50						
							Scotland	6	4						
							Australia	2	7						
							Austria	1							
							Palermo	7	4						
							Baden	10	2						
							Switzerland	10	2						
							Syria	2							
							Aliam	1							
							Manilla	1							
							Mahoma	3							
							Yucatan	2	3						
127	39	101	29	173	40	39		1104	466	1570		1104	466	1570	
							United States.	288	65		England.	1			
							Milan	1			France.	1			
							Not stated	1			United States..	342	95		
							France	36	14						
							Spain	26	4						
							England	21	6						
							Ireland	4	1						
							Germany	2	1						
							Denmark	1							
							San Antonio.	4							
							Prussia	3							
							Austria	6							
							Belgium	1							
							Italy	2							
							Mexico	1	1						
							China	1							
							Cuba	6	3						
59	12	41	5	57	12	8		344	95	439		344	95	439	

arriving in the United States, &c.—Continued.

Males from 30 and under 35 years.	Females from 30 and under 35 years.	Males from 35 and under 40 years.	Females from 35 and under 40 years.	Males upwards of 40 years of age.	Females upwards of 40 years of age.	Age or sex not stated.	Country to which they belong.	Males.	Females.	Total.	Country in which they mean to reside.	Males.	Females.	Total.	Died on the voyage.
12	12	13	6	26	21	...	...	154	99	253	...	154	99	253	...
...	Canada .....	...	...	5273	United States..	4409	2842	...	...
...	Germany .....	...	...	567	...	...	...	...	...
...	Norway .....	...	...	576	...	...	...	...	...
...	Sweden .....	...	...	194	...	...	...	...	...
...	Scotland .....	...	...	201	...	...	...	...	...
...	England .....	...	...	187	...	...	...	...	...
...	Belgium .....	...	...	134	...	...	...	...	...
...	France .....	...	...	27	...	...	...	...	...
...	Ireland .....	...	...	142	...	...	...	...	...
...	7301	...	4409	2842	7301	...
...	Canada .....	...	...	10290	United States..	8862	8673	...	...
...	Germany .....	...	...	712	...	...	...	...	...
...	Norway .....	...	...	4732	...	...	...	...	...
...	Sweden .....	...	...	313	...	...	...	...	...
...	Scotland .....	...	...	217	...	...	...	...	...
...	England .....	...	...	319	...	...	...	...	...
...	Belgium .....	...	...	391	...	...	...	...	...
...	France .....	...	...	46	...	...	...	...	...
...	Denmark .....	...	...	119	...	...	...	...	...
...	Ireland .....	...	...	215	...	...	...	...	...
...	Poland .....	...	...	181	...	...	...	...	...
...	17535	...	8862	8673	17535	...
...	Canada .....	...	...	9114	United States..	7976	6375	...	...
...	Germany .....	...	...	1745	...	...	...	...	...
...	Norway .....	...	...	889	...	...	...	...	...
...	Sweden .....	...	...	600	...	...	...	...	...
...	Scotland .....	...	...	372	...	...	...	...	...
...	England .....	...	...	789	...	...	...	...	...
...	Belgium .....	...	...	250	...	...	...	...	...
...	France .....	...	...	125	...	...	...	...	...
...	Denmark .....	...	...	197	...	...	...	...	...
...	Ireland .....	...	...	220	...	...	...	...	...
...	Poland .....	...	...	50	...	...	...	...	...
...	14351	...	7976	6375	14351	...

arriving in the United States, &c.—Continued.

Males from 30 and under 35 years.	Females from 30 and under 35 years.	Males from 35 and under 40 years.	Females from 35 and under 40 years.	Males upwards of 40 years of age.	Females upwards of 40 years of age.	Age or sex not stated.	Country to which they belong.	Males.	Females.	Total.	Country in which they mean to reside.	Males.	Females.	Total.	Died on the voyage.
42	1	26	5	11	1	77									
42	1	26	5	11	1	77		175	17	192		175	17	192	...
							England.....	22	9		England.....	3	10		
							United States.....	39	1		United States..	87			
							Germany.....	3							
							Norway.....	1							
							Switzerland.....	2							
							France.....	4							
							China.....	19							
25	2	13	1	12	2	10									
25	2	13	1	12	2	10		90	10	100		90	10	100	...
							United States.....	78	17		United States..	194	23		
							England.....	22	1		England.....	1			
							China.....	41							
							Germany.....	10	3						
							France.....	5							
							Ireland.....	11	1						
							New Brunswick.....	1	1						
							Scotland.....	6							
							Canada.....	9							
							Wales.....	1							
							Nova Scotia.....	1							
							Denmark.....	1							
							Italy.....	3							
							Switzerland.....	1							
							Spain.....	4							
							Greece.....								
40	10	38	2	26	1	41		195	23	218		195	23	218	...
							China.....	77		77	United States..	132	28	160	...
							Great Britain.....	23	12	35					
							Germany.....	28	6	34					
							Mexico.....	8	10	18					

Males from 30 and under 35 years.	Females from 30 and under 35 years.	Males from 35 and under 40 years.	Females from 35 and under 40 years.	Males upwards of 40 years of age.	Females upwards of 40 years of age.	Age or sex not stated.	Country to which they belong.	Males.	Females.	Total.	Country in which they mean to reside.	Males.	Females.	Total.	Died on the voyage.
20	16	5					France	3		3					
							Denmark	1		1					
							Prussia	2		2					
								132	28	160		132	28	160	
							China	1004	1	1005	United States..	1050	22	1072	
							England	16	16	32	Not stated.....			300	
							Ireland	8	4	12					
							Germany	7	1	8					
							Not stated			300					
33	9	11		5		300		1050	22	1372		1050	22	1372	
							China	1036		1036	United States..	1149	35	1184	
							Ireland	12		12					
							Germany	6		6					
							France	2	1	3					
							Spain	2		2					
							Switzerland	1		1					
							Italy	4	1	5					
							Mexico	10	7	17					
							England	75	26	101					
							Prussia	1		1					
34	1	21	1	11				1149	35	1184		1149	35	1184	

Males from 30 and under 35 years.	Females from 30 and under 35 years.	Males from 35 and under 40 years.	Females from 35 and under 40 years.	Males upwards of 40 years of age.	Females upwards of 40 years of age.	Age or sex not stated.
Country to which they belong.						
Males.						
Females.						
Total.						
Country in which they mean to reside.						
Males.						
Females.						
Total.						
Died on the voyage.						

Maine	4, 255
New Hampshire	1
Massachusetts	12, 814
Rhode Island	3
Connecticut	28
New York	209, 097
Pennsylvania	2, 528
Maryland	6, 476
North Carolina	4
South Carolina	70
Florida	135
Louisiana	3, 281
Texas	170
Ohio	548
Michigan	39, 187
Illinois	875
Wisconsin	3, 756
Minnesota	14
Oregon	510
California	2, 716
Total	286, 406

DETAILS OF EXPENDITURES.

The expenses of the office at the city of New York, during the first three quarters of the year 1866—from January 1 to September 30, 1866—amounted to \$7,087 29, of which the sum of \$1,759 29 was consumed for contingencies, (such as rent, furniture, stationery, &c.,) and \$5,328 in salaries, namely :

For the quarter ending March 31, 1866—		
Salaries	\$1,736 00	
Contingencies	705 53	
		<u>\$2,441 53</u>
For the quarter ending June 30, 1866—		
Salaries	1,796 00	
Contingencies	547 86	
		<u>2,343 86</u>
For the quarter ending September 30, 1866—		
Salaries	1,796 00	
Contingencies	505 90	
		<u>2,301 90</u>
Total expenses of the office at New York during the first three quarters		<u><u>7,087 29</u></u>

The expenses of the bureau in this city during the first three quarters of the year 1866—from January 1 to September 30, 1866—amounted to \$6,046 23, of which the sum of \$1,440 80 was consumed for contingencies, (furniture, stationery, &c.,) and \$4,605 43 in salaries, namely :

For the quarter ending March 31, 1866—		
Salaries	\$1,452 72	
Contingencies	1,200 80	
		<u>\$2,653 52</u>
For the quarter ending June 30, 1866—		
Salaries	1,825 00	
Contingencies	93 00	
		<u>1,918 00</u>
For the quarter ending September 30, 1866—		
Salaries	1,327 71	
Contingencies	147 00	
		<u>1,474 71</u>
Total expenses of the bureau in this city during the first three quarters		<u><u>6,046 23</u></u>
Amount of appropriation for the year 1866		\$20,000 00
Expenses of the office at New York	\$7,087 29	
Expenses of the bureau in this city	6,046 23	
		<u>13,133 52</u>
Leaving a balance not expended of		<u><u>6,866 48</u></u>

APPENDIX.

APPENDIX No. 1.

The total number of foreign passengers which arrived in this country during the first three quarters of the year 1866 amounted to 286,496, viz:

Maine	4,255	Texas	170
New Hampshire	1	Ohio	548
Massachusetts	12,814	Michigan	39,187
Rhode Island	31	Illinois	875
Connecticut	28	Wisconsin	3,756
New York	209,097	Minnesota	14
Pennsylvania	2,528	Oregon	510
Maryland	6,476	California	2,716
North Carolina	4		
South Carolina	70	Total	286,496
Florida	135		
Louisiana	3,281		

Of which the nativities were as follows:

Great Britain	107,308	Mexico	178
Germany	86,675	Russia	152
British North American provinces ..	29,188	South America	233
Norway	8,075	Africa	27
France	4,950	Australia	19
Switzerland	2,704	Turkey	17
Unknown	3,121	Greece	3
China	2,278	Sicily	95
Sweden	4,523	St. Helena	2
Denmark	1,769	East India	30
West Indies	704	Japan	2
Italy	1,028	Egypt	4
Holland	1,314	Brazil	1
Belgium	1,185	Peru	4
Spain	518	United States	29,418
Poland	391		
Azores	348	Total	286,496
Portugal	232		

APPENDIX No. 2.

Table showing the price of transportation of immigrants and their baggage from New York to the west, southwest, and south, by way of New York Central railroad, each full passenger having eighty pounds of baggage carried free of charge.

From New York to—	Luggage, per 100 lbs.	Fare.	From New York to—	Luggage, per 100 lbs.	Fare.
Alliance, Ohio	\$2 50	\$8 50	Freeport, Illinois	\$3 65	\$16 50
Adrian, Michigan	2 65	11 00	Fulton, Illinois	3 70	17 00
Agency City, Iowa	4 25	22 00	Fond du Lac, Wisconsin	3 80	18 25
Alton, Illinois	4 10	17 00	Forest, Ohio	2 65	10 00
Aurora, Illinois	3 35	14 10	Galena, Illinois	3 85	18 95
Ann Arbor, Michigan	2 50	11 50	Galion, Ohio	2 55	9 60
Attica, Indiana	3 35	13 50	Green Bay, Wisconsin	3 95	20 75
Atchison, Kansas	5 20	23 50	Galesburg, Illinois	3 80	17 65
Ashtabula, Ohio	2 15	8 50	Grand Rapids, Michigan	2 90	12 00
Akron, Ohio	2 45	8 75	Grand Haven, Michigan	2 95	12 50
Anderson, Indiana	3 10	11 50	Geneseo, Illinois	3 80	18 00
Appleton, Wisconsin	3 90	19 60	Girard, Pennsylvania	2 10	8 00
Berlin, Wisconsin	4 50	18 75	Greencastle, Indiana	3 35	12 50
Bellefontaine, Ohio	2 75	10 50	Hannibal, Missouri	4 20	18 50
Beloit, Wisconsin	3 50	16 00	Hamilton, Ohio	3 00	11 50
Bloomington, Illinois	3 75	16 75	Horicon, Wisconsin	3 65	17 00
Burlington, Iowa	3 90	18 50	Herman, Missouri	4 50	18 90
Buffalo, New York	1 80	6 50	Helena, Ark., per steamer from St. Louis.	4 60	22 25
Boone, Iowa	4 55	23 50	Illinoistown, Illinois	4 20	16 75
Baton Rouge, Louisiana, per steamer from St. Louis.	5 00	27 75	Indianapolis, Indiana	3 20	12 00
Chicago, Illinois	3 20	12 50	Iowa City, Iowa	4 10	19 65
Cincinnati, Ohio	3 05	11 50	Independence, Iowa	4 25	21 50
Cairo, Illinois	4 30	19 50	Jacksonville, Illinois	3 95	15 50
Cedar Rapids, Iowa	4 05	20 00	Jamestown, New York	1 90	6 75
Cleveland, Ohio	2 30	9 00	Joliet, Illinois	3 35	14 30
Clyde, Ohio	2 50	10 25	Jeffersonville, Indiana	3 40	13 50
Columbus, Ohio	2 70	9 90	Jefferson City, Missouri	4 75	19 85
Canton, Ohio	2 40	8 60	Janesville, Wisconsin	3 50	16 00
Crestline, Ohio	2 50	9 50	Jackson, Michigan	2 65	12 00
Cedar Falls, Iowa	4 35	21 50	Kenosha, Wisconsin	3 40	14 30
Chillicothe, Illinois	3 80	15 50	Kenton, Ohio	2 75	10 25
Centralia, Illinois	4 00	17 00	Kalamazoo, Michigan	3 00	12 50
Corry, Pennsylvania	2 00	7 00	Keokuk, Iowa	4 10	17 50
Council Bluffs, Iowa	5 45	30 05	Kewanee, Illinois	3 75	17 65
Decatur, Illinois	3 70	15 00	Kansas City, Kansas	5 50	23 05
Danville, Illinois	3 40	13 75	LaFayette, Indiana	3 30	13 25
Dixon, Illinois	3 55	16 40	La Salle, Illinois	3 55	15 50
Dunkirk, New York	1 90	7 60	Lawrence, Kansas	5 75	25 80
Delaware, Ohio	2 65	9 90	Lake Pepin, Minnesota		
Dayton, Ohio	2 95	10 65	Lancaster, Ohio	2 90	9 75
Dubuque, Iowa	3 95	19 50	Louisville, Kentucky, via steamer from Cincinnati.	3 45	13 50
Dunleith, Illinois	3 90	19 00	Lima, Ohio	2 75	10 50
Detroit, Michigan	2 40	10 00	La Crosse, Wisconsin	4 85	23 00
Detroit, Michigan, via Toledo.	2 60	11 00	La Porte, Indiana	3 20	12 50
Des Moines, Iowa	4 75	26 25	Logansport, Indiana	3 15	12 75
Davenport, Iowa	3 85	18 10	Leavenworth, Kansas	5 40	24 05
Erie, Pennsylvania	2 05	7 50	Michigan City, Indiana	3 20	12 50
Evansville, Indiana	3 90	14 50	Madison, Indiana	3 35	13 25
Elkhart, Indiana	3 20	12 50	Madison, Wisconsin	4 35	17 60
Eddyville, Iowa	3 60	23 00	Marietta, Ohio	2 60	10 50
Fairfield, Iowa	4 15	21 05	Mount Pleasant, Iowa	4 05	19 90
Fort Wayne, Indiana	2 90	11 50			

Table showing the price of transportation of immigrants, &c.—Continued.

From New York to—	Luggage, per 100 lbs.	Fare.	From New York to—	Luggage, per 100 lbs.	Fare.
Milwaukee, Wisconsin.....	\$3 45	\$15 00	Pittsburg, Pennsylvania	\$2 20	\$7 00
Mansfield, Ohio.....	2 55	9 00	Quincy, Illinois.....	4 05	17 50
Massillon, Ohio.....	2 40	8 75	Racine, Wisconsin.....	3 40	14 65
Monroe, Michigan.....	2 55	10 75	Rockford, Illinois.....	3 50	16 20
Marshall, Michigan.....	2 75	11 50	Rock Island, Illinois.....	3 85	18 00
Marion, Ohio.....	2 10	10 25	Ripon, Wisconsin.....	4 50	18 25
Mendota, Illinois.....	3 50	15 90	Ravenna, Ohio.....	2 35	8 75
Muscatine, Iowa.....	4 00	19 20	Richmond, Indiana.....	2 95	11 00
Monroeville, Ohio.....	2 50	10 25	Sandusky, Ohio.....	2 50	10 00
Mineral Point, Wisconsin.....	3 85	19 20	Sidney, Ohio.....	2 85	10 75
Moline, Illinois.....	3 85	18 00	Springfield, Illinois.....	3 85	15 25
Manchester, Iowa.....	4 35	21 00	Springfield, Ohio.....	2 80	10 65
Muncie, Indiana.....	3 00	11 25	St. Louis, Missouri.....	4 20	17 25
Memphis, Tenn., rail from Louisville.	4 40	21 00	St. Joseph, Missouri.....	5 10	23 05
Memphis, Tenn., St. Louis and steamer.	4 40	21 25	Shelby, Ohio.....	2 50	9 50
Newark, Ohio.....	2 75	9 00	South Bend, Indiana.....	3 20	12 50
Norwalk, Ohio.....	2 50	10 25	Sandoval, Illinois.....	4 00	16 50
New Albany, Indiana.....	3 40	14 00	Seymour, Indiana.....	3 30	12 75
New Buffalo, Michigan.....	3 20	12 50	Stevens' Point, Wisconsin.....	4 15	22 75
Naples, Illinois.....	4 05	15 75	Sparta, Wisconsin.....	4 85	22 00
Niagara Falls, New York....	1 80	6 50	Sterling, Illinois.....	3 60	16 50
Nebraska City, Nebraska....	5 85	28 05	St. Paul, Minnesota.....	.....	34 00
Nevada, Iowa.....	4 45	22 50	Terre Haute, Indiana.....	3 45	13 00
Natchez, St. Louis and steam'r	5 00	27 25	Tiffin, Ohio.....	2 55	10 00
New Orleans, Louisiana, St.	5 00	27 25	Trenton, Ohio.....	3 00	11 50
Louis and steamer.			Toledo, Ohio.....	2 55	10 50
New Orleans, Louisiana, rail from Louisville.	5 00	29 50	Topeka, Kansas.....	6 40	27 80
Napoleon, Arkansas, St. Louis and steamer.	4 70	24 25	Tolona, Illinois.....	3 55	14 25
Ottawa, Illinois.....	3 50	15 05	Union, Indiana.....	3 00	11 00
Oshkosh, Wisconsin.....	3 85	18 80	Urbana, Ohio.....	2 85	10 40
Ottumwa, Iowa.....	4 25	22 00	Vincennes, Indiana.....	3 75	13 75
Omaha, Nebraska.....	5 50	30 55	Vicksburg, Mississippi, St. Louis and steamer.	4 90	26 25
Oskaloosa, Iowa.....	4 50	23 50	Waukegan, Illinois.....	3 30	13 75
Orrville, Ohio.....	2 45	8 75	Wooster, Ohio.....	2 45	8 75
Peru, Indiana.....	3 05	12 50	White Pigeon, Michigan.....	3 00	12 00
Pana, Illinois.....	3 85	15 50	Watertown, Wisconsin.....	3 60	16 75
Parkersburg, W. Virginia.....	2 60	10 50	Wabash, Indiana.....	3 00	12 25
Princeton, Illinois.....	3 60	16 80	Washington, Iowa.....	4 20	20 30
Portage City, Wisconsin.....	4 50	18 80	Washington, Missouri.....	4 50	18 50
Painesville, Ohio.....	2 25	8 75	Wheeling, West Virginia....	2 30	9 00
Peoria, Illinois.....	3 80	15 50	Warren, Ohio.....	2 30	8 75
Peru, Illinois.....	3 50	15 50	Weston, Missouri.....	5 40	23 75
Prairie du Chien, Wisconsin..	4 80	21 00	White Water, Arkansas, St. Louis and steamer.	4 70	24 25
Piqua, Ohio.....	2 90	10 90	Wilmington, Ohio.....	3 00	10 75
			Xenia, Ohio.....	2 85	10 65
			Zanesville, Ohio.....	2 85	9 00

APPENDIX No. 3.

Table showing the prices of transportation of immigrants, and of their baggage, from Philadelphia to the west, southwest, and south, by way of the Pennsylvania railroad, each full passenger having eighty pounds of baggage carried free of charge.

Destination.	Distance from Philadelphia.	Rate per person.	Per 100 lbs. of extra baggage.
Adrian, Michigan	655	\$9 00	\$2 25
Akron, Ohio	508	7 00	1 70
Alliance, Ohio	443	7 00	1 60
Alton, Illinois	991	14 75	3 30
Altoona, Pennsylvania	244	4 20	1 25
Alma, Wisconsin	1,245	21 25	4 00
Anamosa, Iowa	1,030	17 65	3 20
Anderson, Indiana	718	9 25	2 50
Ann Harbor, Michigan	547	9 50	2 00
Appleton, Wisconsin	1,041	17 60	3 10
Atchison, Kansas	1,331	21 25	4 75
Attica, Indiana	804	11 50	2 50
Aurora, Illinois	870	12 10	2 70
Baton Rouge, Louisiana	2,116	25 00	6 25
Beaver, Pennsylvania	387	5 75	1 50
Bellefontaine, Ohio	612	8 75	2 00
Beloit, Wisconsin	916	13 50	2 75
Berlin, Wisconsin	1,071	16 75	3 25
Blairsville, Pennsylvania	310	5 35	1 25
Bloomington, Illinois	897	14 75	3 00
Boone, Iowa	1,169	21 50	5 40
Bucyrus, Ohio	561	8 10	2 15
Buffalo, New York	438	7 75	1 55
Burlington, Iowa	1,037	16 50	3 05
Cairo, Illinois	1,094	17 75	3 30
Canton, Ohio	461	7 10	1 60
Cedar Rapids, Iowa	1,045	18 00	3 10
Cedar Falls, Iowa	1,117	19 50	3 25
Centralia, Illinois	982	14 75	3 50
Chicago, Illinois	827	10 50	2 50
Chillicothe, Illinois	969	14 75	3 60
Cincinnati, Ohio	699	9 25	2 20
Circleville, Ohio	597	8 50	1 90
Cleveland, Ohio	510	7 00	1 60
Columbia, Pennsylvania	82	1 80	75
Columbiana, Ohio	420	6 50	1 40
Columbus, Ohio	579	7 75	1 85
Corry, Pennsylvania	422	6 25	1 75
Council Bluffs, Iowa	1,421	27 80	5 25
Crestline, Ohio	548	8 00	1 75
Dansville, Illinois	835	11 75	2 60
Davenport, Iowa	1,009	16 10	3 00
Dayton, Ohio	649	8 50	2 05
Decatur, Illinois	909	13 00	2 80
Delaware, Ohio	588	8 00	2 00
Des Moines, Iowa	1,165	24 25	3 45
Detroit, Michigan	682	8 00	1 85
Dixon, Illinois	925	14 40	2 85
Dubuque, Iowa	1,017	17 50	3 05
Dunleith, Illinois	1,015	17 00	3 05
Eddyville, Iowa	1,122	21 00	3 50
Elkhart, Indiana	769	10 50	2 25
Elmira, New York	283	5 25	1 20

Table showing the prices of transportation of immigrants, &c.—Continued.

Destination.	Distance from Philadelphia.	Rate per person.	Per 100 lbs. of extra baggage.
Erie, Pennsylvania.....	459	\$6 50	\$2 00
Evansville, Indiana	942	12 25	2 80
Fairfield, Iowa.....	1,088	19 05	3 20
Fond du Lac, Wisconsin.....	1,004	16 25	3 00
Forest, Ohio.....	589	8 50	1 85
Fort Wayne, Indiana.....	679	9 75	2 15
Freeport, Illinois.....	948	14 50	2 85
Fulton, Illinois.....	963	15 00	2 85
Galena, Illinois.....	998	16 95	3 00
Galesburg, Illinois.....	995	15 65	3 00
Galion, Ohio.....	552	8 00	1 75
Geneseo, Illinois.....	886	16 00	4 00
Grand Haven, Michigan.....	732	10 50	2 35
Grand Rapids, Michigan.....	840	10 00	2 50
Green Bay, Wisconsin.....	1,069	18 00	3 05
Green Castle, Indiana.....	794	11 25	2 50
Greensburg, Pennsylvania.....	329	5 50	1 25
Grinnell, Iowa.....	1,130	19 65	3 40
Hamilton, Ohio.....	685	9 25	2 20
Hannibal, Missouri.....	1,079	16 25	2 35
Harrisburg, Pennsylvania.....	111	2 50	1 00
Hastings, Minnesota.....	1,342	23 75	4 00
Helena, Arkansas.....	1,434	20 00	5 25
Herman, Missouri.....	1,096	18 00	3 05
Hollidaysburg, Pennsylvania.....	251	4 50	1 25
Horicon, Wisconsin.....	963	15 00	2 95
Illinoistown, Illinois.....	1,014	14 50	4 10
Indianapolis, Indiana.....	755	9 75	2 50
Independence, Iowa.....	1,086	19 50	3 20
Iowa City, Iowa.....	1,064	17 65	3 20
Jackson, Michigan.....	700	10 00	2 40
Jacksonville, Illinois.....	981	13 50	3 00
Janesville, Wisconsin.....	919	13 50	2 75
Jefferson City, Missouri.....	1,140	17 60	3 75
Jeffersonville, Indiana.....	835	11 25	2 70
Jessup, Iowa.....	1,094	19 25	3 25
Johnstown, Pennsylvania.....	282	5 00	1 25
Joliet, Illinois.....	867	12 30	3 00
Kalamazoo, Michigan.....	689	10 50	2 35
Kansas City, Kansas.....	1,378	20 80	4 75
Kenosha, Wisconsin.....	878	12 30	2 65
Kenton, Ohio.....	602	8 75	2 25
Keokuk, Iowa.....	1,075	15 25	3 30
Kewanee, Illinois.....	960	15 65	4 00
Kilbourne City, Wisconsin.....	1,024	17 50	3 25
La Crosse, Wisconsin.....	1,112	19 00	3 30
Lafayette, Indiana.....	788	11 25	2 45
Lake Pepin, Wisconsin.....	1,300	23 25	3 80
Lancaster, Pennsylvania.....	70	1 75	50
La Porte, Indiana.....	807	10 25	2 35
La Salle, Illinois.....	925	13 50	2 75
Lawrence, Kansas.....	1,390	23 80	5 25
Lawrenceburg, Indiana.....	724	9 75	2 40
Leavenworth, Kansas.....	1,345	21 80	4 75
Lewisburg, Pennsylvania.....	172	3 00	1 00
Lima, Ohio.....	620	9 00	1 95
Lock Haven, Pennsylvania.....	236	4 00	1 00
Lancaster, Ohio.....	576	8 00	1 75
Logansport, Indiana.....	751	10 75	2 40

Table showing the prices of transportation of immigrants, &c.—Continued.

Destination.	Distance from Philadelphia.	Rate per person.	Per 100 lbs. of extra baggage.
Loudonville, Ohio.....	516	\$7 40	\$1 70
Louisville, Kentucky.....	863	11 25	2 70
Macomb, Illinois.....	1,033	18 00	4 50
Madison, Indiana.....	842	11 00	2 70
Madison, Wisconsin.....	958	15 05	2 95
Manchester, Iowa.....	1,062	19 50	3 20
Mansfield, Ohio.....	535	7 50	1 70
Marshall, Michigan.....	653	9 50	2 10
Marion, Ohio.....	572	8 50	1 85
Marion, Iowa.....	1,045	18 40	3 10
Marengo, Iowa.....	1,095	19 65	3 30
Massilon, Ohio.....	470	7 15	1 60
Mattoon, Illinois.....	884	12 00	2 90
Memphis, Tennessee.....	1,346	19 00	5 00
Mendota, Illinois.....	915	13 90	2 95
Michigan City, Indiana.....	773	10 50	2 40
Milwaukee, Wisconsin.....	912	13 00	2 75
Mineral Point, Wisconsin.....	1,004	17 20	3 05
Minnesota Junction, Wisconsin.....	990	15 00	3 00
Moline, Illinois.....	1,006	16 00	4 00
Monroe, Michigan.....	643	8 75	2 25
Monroeville, Ohio.....	570	8 25	2 00
Mount Vernon, Ohio.....	571	7 25	2 25
Mount Pleasant, Iowa.....	1,065	17 90	3 15
Muncie, Iowa.....	701	9 00	2 50
Muscatine, Iowa.....	1,047	17 20	3 10
Naples, Illinois.....	1,003	13 75	3 05
Napoleon, Arkansas.....	1,534	22 00	5 75
Nashville, Tennessee.....	1,048	20 50	3 50
Natchez, Mississippi.....	1,874	25 00	6 50
Nebraska City, N. T.....	1,381	25 80	5 25
Neenah, Wisconsin.....	1,033	17 35	3 05
Newark, Ohio.....	546	7 25	1 75
New Albany, Indiana.....	887	11 75	3 00
New Buffalo, Michigan.....	900	10 50	2 60
New Orleans, Louisiana.....	2,100	25 00	6 50
Norwalk, Ohio.....	565	8 25	2 00
Omaha, N. T.....	1,425	28 30	5 25
Omro, Wisconsin.....	1,091	16 80	3 30
Orrville, Ohio.....	484	7 25	2 00
Oshkosh, Wisconsin.....	1,020	16 80	3 00
Oskaloosa, Iowa.....	1,142	21 50	3 30
Ottawa, Illinois.....	911	13 05	2 75
Ottumwa, Iowa.....	1,107	20 00	3 45
Pana, Illinois.....	923	13 25	3 05
Peoria, Illinois.....	918	13 50	3 00
Peru, Indiana.....	735	10 50	2 50
Peru, Illinois.....	927	13 50	3 40
Piqua, Ohio.....	712	8 75	2 20
Pittsburg, Pennsylvania.....	360	5 50	1 25
Portage City, Wisconsin.....	1,007	16 80	3 00
Prairie du Chien, Wisconsin.....	1,045	18 00	3 10
Prescott, Wisconsin.....	1,340	23 75	4 00
Princeton, Illinois.....	936	14 80	2 80
Quincy, Illinois.....	1,061	15 25	3 25
Racine, Wisconsin.....	888	12 65	2 70
Ravenna, Ohio.....	472	7 00	1 75
Reed's Landing, Wisconsin.....	1,275	23 00	4 00
Red Wing, Wisconsin.....	1,322	23 50	3 90

Table showing the prices of transportation of immigrants, &c.—Continued.

Destination.	Distance from Philadelphia.	Rate per person.	Per 100 lbs. of extra baggage.
Richmond, Indiana	698	\$8 75	\$2 40
Ripon, Wisconsin	1,051	16 25	3 25
Rockford, Illinois	919	13 75	2 75
Rock Island, Illinois	1,009	16 00	3 00
Salem, Ohio	430	6 50	1 35
Sandoval, Illinois	978	14 25	3 00
Sandusky, Ohio	570	8 00	1 85
Seymour, Indiana	786	10 50	2 75
Shelby, Ohio	547	8 00	2 00
Shelbyville, Illinois	909	12 75	3 00
Sidney, Ohio	635	9 00	2 00
South Bend, Indiana	780	10 50	2 40
Sparta, Wisconsin	1,095	20 00	3 30
Springfield, Illinois	948	13 00	2 90
Springfield, Ohio	624	8 50	2 00
St. Joseph, Missouri	1,261	20 80	4 50
St. Louis, Missouri	1,015	15 00	3 50
St. Paul, Minnesota	1,360	24 00	4 00
Stevens's Point, Wisconsin	1,080	20 75	3 25
Steubenville, Ohio	429	6 25	1 55
Sterling, Illinois	937	14 50	4 10
Terre Haute, Indiana	828	10 75	2 75
Tiffin, Ohio	617	8 50	2 25
Toledo, Ohio	622	8 50	1 90
Tolona, Illinois	871	12 25	2 70
Topeka, Kansas	1,390	25 80	5 35
Trenton, Illinois	1,009	14 00	3 00
Trenton, Ohio	666	9 25	2 30
Union, Indiana	670	9 10	2 10
Upper Sandusky, Ohio	577	8 25	1 90
Urbana, Ohio	625	8 25	2 00
Vicksburg, Mississippi	1,774	24 00	6 25
Vincennes, Indiana	891	11 50	2 70
Wabash, Indiana	721	10 25	2 50
Washington, Illinois	910	16 25	4 00
Washington, Iowa	1,086	18 30	3 45
Washington, Ohio	623	8 75	2 00
Watertown, Wisconsin	957	14 75	2 90
Waterloo, Iowa	1,110	21 70	3 25
Waukegan, Illinois	857	11 75	2 60
Weston, Missouri	1,337	21 50	4 75
Wheeling, Virginia	455	7 00	1 50
White Pigeon, Indiana	746	10 00	2 25
White River, Arkansas	1,136	22 00	5 75
White Water, Wisconsin	962	14 85	3 50
Williamsport, Pennsylvania	211	4 25	1 00
Wilmington, Ohio	645	9 00	2 05
Winona, Minnesota	1,200	21 00	3 80
Winthrop, Iowa	1,078	20 20	3 25
Wooster, Ohio	495	7 30	1 65
Xenia, Ohio	634	8 50	2 00
Zanesville, Ohio	533	7 25	1 75

APPENDIX No. 4.

Table showing the prices of transportation of immigrants, and of their baggage, from Baltimore to the west and southwest, by way of the Baltimore and Ohio railroad, each full passenger having one hundred pounds of baggage carried free of charge.

Destination.	Rate per person.	Extra baggage per 100 lbs.	Destination.	Rate per person.	Extra baggage per 100 lbs.
Cumberland, Maryland.....	\$4 00	\$0 75	Illinoistown, Illinois.....	\$12 25	.....
Parkersburg, Virginia.....	5 00	1 50	Racine, Wisconsin.....	12 50	.....
Wheeling, Virginia.....	5 00	1 50	Milwaukee, Wisconsin.....	12 50	\$3 25
Cleveland, Ohio.....	6 25	1 75	Madison, Wisconsin.....	14 50	3 50
Newark, Ohio.....	6 50	1 75	Peoria, Illinois.....	15 00	.....
Columbus, Ohio.....	6 50	1 75	Rock Island, Illinois.....	15 50	3 75
Sandusky, Ohio.....	7 00	2 00	Davenport, Iowa.....	15 50	3 75
Dayton, Ohio.....	7 00	2 00	Dubuque, Iowa.....	16 50	3 75
Chillicothe, Ohio.....	7 00	2 00	Galena, Illinois.....	16 50	3 75
Cincinnati, Ohio.....	7 00	2 00	Quincy, Illinois.....	16 50	3 75
Detroit, Michigan.....	7 50	2 25	Dunleith, Illinois.....	16 50	3 75
Toledo, Ohio.....	8 00	2 25	Burlington, Iowa.....	17 00	3 87
Indianapolis, Indiana.....	9 00	2 37	Iowa City, Iowa.....	17 50	3 87
Terre Haute, Indiana.....	10 00	2 50	St. Paul, Minnesota.....	23 50	4 50
Louisville, Kentucky.....	10 00	2 50	Cairo, Illinois.....	16 50	.....
Chicago, Illinois.....	10 00	2 50	Memphis, Tennessee.....	20 50	.....
St. Louis, Missouri.....	12 25	3 00	New Orleans, Louisiana.....	31 75	.....

Children below the age of four, are transported free; between the ages of four and twelve, half the above rates.

APPENDIX No. 5.

Table showing the prices of transportation of immigrants, and their baggage, from Boston to the west, by way of the Boston and Worcester railroad, each full passenger having one hundred pounds of baggage carried free of charge.

From Boston to—	Fare.	Extra baggage per 100 lbs.
Buffalo, New York.....	\$7 50	\$2 50
Detroit, Michigan.....	10 50	3 00
Cleveland, Ohio.....	10 00	2 75
Chicago, Illinois.....	13 50	3 50
Milwaukee, Wisconsin, via Chicago and Grand Haven.....	13 50	4 00
Niagara Falls, New York.....	7 50	.....
Cincinnati, Ohio.....	13 50	3 50
St. Louis, Missouri.....	18 00	4 50
Toledo, Ohio.....	11 50	3 00

APPENDIX No. 6.

The following table shows the number of immigrants arrived at the ports of Boston, New York, New Orleans, Baltimore, Philadelphia, San Francisco, and Detroit, during the first three quarters of the year 1866.

Port of—	First quarter.	Second quarter.	Third quarter.	Fourth quarter.
Boston, Massachusetts	1,819	4,711	6,225	12,765
New York city	36,955	98,678	73,055	208,688
New Orleans, Louisiana	1,272	1,570	439	3,281
Baltimore, Maryland	471	3,649	2,356	6,476
Philadelphia, Pennsylvania	13	1,879	610	2,502
San Francisco, California	160	1,372	1,184	2,716
Detroit, Michigan	7,301	17,535	14,351	39,187

The number of Chinese who arrived at the port of San Francisco from January 1, 1866, to September 30, 1866, is 2,118.

H. Ex. Doc. 39—10.



A. B. MOREY.

LETTER

FROM

THE ATTORNEY GENERAL OF THE UNITED STATES,

IN ANSWER TO

A resolution of the House of the 14th instant, transmitting papers relative to the case of A. B. Morey, indicted in the local court at Vicksburg, Mississippi.

JANUARY 18, 1867.—Referred to the Committee on Military Affairs and ordered to be printed.

ATTORNEY GENERAL'S OFFICE,
Washington, January 17, 1867.

SIR: I have the honor to acknowledge the receipt of the following resolution of the House of Representatives of January 14, 1867:

“Resolved, That the Attorney General be directed to communicate to this house all the papers before him in the matter of A. B. Morey, indicted in the local court at Vicksburg, Mississippi, together with his opinion thereon.”

In compliance with this resolution I herewith transmit copies of all the papers on file in this office in relation to the case. It will be observed that among these papers is a copy of a letter from the Secretary of War, under date of January 7, 1867, asking my opinion “as to the course which should be adopted to obtain Mr. Morey’s release.”

In consequence of the great pressure of my official duties in the argument of cases in the Supreme Court since the receipt of the letter I have been unable to give the opinion until to-day.

A copy of the opinion is herewith sent.

I have the honor to be, very respectfully, your obedient servant,

HENRY STANBERY,
Attorney General.

Hon. SCHUYLER COLFAX,

Speaker of the House of Representatives.

WAR DEPARTMENT,
Washington City, January 7, 1867.

SIR: I have the honor to transmit herewith a report from General Grant, requesting information as to the measures necessary to secure the release of A. B. Morey from indictment and bail upon charges based on acts committed unde

the instructions of General Grant during the siege of Vicksburg. I will thank you to advise this department as to the course which should be adopted to obtain Mr. Morey's release.

I have the honor to be, sir, your obedient servant,

EDWIN M. STANTON,
Secretary of War.

Hon. HENRY STANBERRY,
Attorney General.

HEADQUARTERS 13TH ARMY CORPS, DEPARTMENT OF THE
TENNESSEE, OFFICE OF THE PROVOST MARSHAL GENERAL,
La Grange, November 27, 1862.

Private Amos B. Morey, of company E, one hundred and twenty-fourth Illinois volunteers, has permission to pass through all the camps of this command at all hours, day and night, on special service, till further orders; and he will be permitted to come to these headquarters at his pleasure.

The commanding officer of his company will release him from duty at any time he may request, until further orders.

By command of Major General U. S. Grant:

WM. S. HILLYER,
Provost Marshal General.

HEADQUARTERS DEPARTMENT OF MISSISSIPPI,
Vicksburg, Mississippi, June 8, 1866.

Private Amos B. Morey, company E, 124th Illinois volunteers, was employed by competent military authority from the 27th November, 1862, to the 25th July, 1865, as a secret agent and detective, and his acts as such are covered by military authority, and for them he is not cognizable to the civil authorities.

T. J. WOOD,
Major General Volunteers, Commanding.

[Special Orders No. 34.—Extract.]

HEADQUARTERS WESTERN DISTRICT OF MISSISSIPPI,
Vicksburg, Mississippi, July 25, 1865.

VII. Private A. B. Morey, E company, 124th Illinois infantry volunteers, is hereby relieved from duty as chief of detective force in this district, and will report to the commanding officer of his company at once.

By order of Brigadier General J. A. Maltby:

T. SLEASON,
Acting Assistant Adjutant General.

OFFICE OF U. S. MARSHAL SOUTHERN DISTRICT MISSISSIPPI,
Vicksburg, October 6, 1866.

DEAR SIR: Mr. A. B. Morey, the bearer of this, stands charged by the civil authorities here of having forcibly taken from a Jew here two camp tents during

the occupation of this place by the United States forces. Mr. Morey I knew to be a detective under the employment of Colonel Waddell, then provost marshal, and I have every reason to believe acted under the orders of Colonel Waddell in the matter. I have never known or heard of his giving any one any unnecessary trouble, or annoying any citizen unnecessarily in the pursuance of his official duties. I think he is being prosecuted without a just cause, and he ought to be relieved. His case has been on hand for some months, subjecting him to much inconvenience and cost. I ask, if it is consistent with your views, that you will take such steps as you think most expedient to have him relieved as early as possible.

I am, sir, very respectfully, your obedient servant,

DUFF GREEN,

U. S. Marshal Southern District Mississippi.

General U. S. GRANT.

Respectfully forwarded to the Secretary of War, with request that these papers be submitted to the Attorney General for information as to what measures are necessary to secure the release of Mr. A. B. Morey from indictment and bail. The facts in the case are as follows: Private A. B. Morey, 124th Illinois infantry volunteers, was detailed for detective duty in November, 1862, by my order, and remained on such duty until July, 1865. During this time, and in accordance with my instructions in such cases, he took from a citizen two tents, believed to be the property of the United States, and turned them over to the provost marshal. He now stands indicted, and is under bail in the sum of three thousand dollars (\$3,000) to appear for trial before the civil courts at Vicksburg, Mississippi, for stealing these tents. Having simply executed my instructions, in my opinion Mr. Morey is not responsible to the civil courts, and should be released from bail and indictment.

U. S. GRANT, *General.*

HEADQUARTERS ARMY UNITED STATES, *January 7, 1867.*

ATTORNEY GENERAL'S OFFICE,
January 17, 1867.

SIR: I have the honor to state my opinion in the matter of A. B. Morey, upon the question submitted by your letter of January 7, as to the course proper to be pursued in his behalf. I take the facts from the statement made to you by General Grant, under the same date.

From this statement it appears that Morey was a private in the 124th Illinois infantry volunteers, and was detailed for detective duty in November, 1862, by order of General Grant, and remained on such duty until July, 1865. During that time, and in accordance with the instructions of General Grant in such cases, he took from a citizen two tents, believed to be the property of the United States, and turned them over to the provost marshal. He now stands indicted, and is under bail in the sum of \$3,000 to appear for trial before the civil courts at Vicksburg, Mississippi, for stealing these tents.

These facts bring private Morey within the protection provided in the fourth and fifth sections of the *habeas corpus* act of March 3, 1863, and the act amendatory thereto of May 11, 1866. It is provided by the fourth section of the first named act, and the first section of the last mentioned act, among other things, that as to any seizure or any act done during the rebellion, it shall be a defence in all courts to any action or prosecution, civil or criminal, pending, or to be

commenced, for any such seizure or act, that the same was made or done under an order of the President, or in virtue of an order, written or verbal, general or special, made by the Secretary of War, or by any military officer of the United States holding the command of the department, district, or place within which such seizure or act was done or committed.

These provisions allow the defence to be made in the civil or criminal courts of a State, but an election is given to the defendant to remove the suit or prosecution into the circuit court of the United States for the district where the suit is pending, and this right of removal may be exercised at the first appearance of the defendant to the suit or prosecution in a State court, or at any stage of the case before the jury is empanelled; but, if then omitted, either party may remove the case, after final judgment, by appeal, into the circuit court as aforesaid. If, as in the case of Morey, bail has been required of the defendant in the State court, he is, by the fifth section of the act of 1863, to give good and sufficient security for entering bail in the circuit court.

It is further provided by the fourth section of the act of 1866, that if the State court shall, notwithstanding the performance of all things required for the removal of the case to the circuit court aforesaid, proceed further in the cause or prosecution, then all further proceedings in the State court shall be void and of none effect.

I am of opinion that the right of removal given by the third and fourth sections of the act of 1866 attaches upon the filing of the petition, verified by affidavit, according to the fifth section of the act of 1863, without giving the surety for filing copies of the papers in the circuit court of the United States, and (where bail has been given in the State court) without giving surety for the appearance of the defendant in the circuit court, and entering bail in that court. The surety for filing the papers is expressly waived. By the third section of the act of 1866 it is provided that, "on the filing of the petition, verified as provided in the said fifth section, [of the act of 1863,] the further proceedings in the State court shall cease, and not be resumed until a certificate, under the seal of the circuit court of the United States, stating that the petitioner has failed to file copies in the said circuit court, at the next term, is produced."

These statutory provisions afford complete relief in the case stated. Under instructions issued heretofore from your department, a great number of similar suits and prosecutions, brought in State courts of Kentucky against loyal persons and officers in that State for similar acts and seizures, have been, before and after judgments in the State courts, removed to the proper circuit court of the United States in Kentucky, and have, in every instance hitherto, availed as a complete defence.

The papers accompanying your letter contain copies of the orders under which Morey acted, and are sufficient for his defence in the State court, or to authorize the removal of the case into the circuit court, and for his defence in that court.

I would, therefore, advise that instructions be sent to the officer in command at Vicksburg to furnish for the use of Morey the documents or orders under which he acted, and to see that his case is properly defended.

I have the honor to be, very respectfully, your obedient servant,

HENRY STANBERRY,

Attorney General.

HON. EDWIN M. STANTON,
Secretary of War.

DRAWBACK REGULATIONS, &c.

LETTER

FROM

THE SECRETARY OF THE TREASURY,

IN ANSWER TO

A resolution of the House of January 15, transmitting copies of all drawback regulations prescribed under the internal revenue law.

JANUARY 18, 1867.—Referred to the Committee of Ways and Means and ordered to be printed.

TREASURY DEPARTMENT,
January 17, 1867.

SIR : In compliance with a resolution of the House of Representatives, adopted on January 15, I herewith transmit copies of all drawback regulations which have been prescribed under the internal revenue law.

The resolution, as transmitted to me, calls for all rules and regulations adopted under direction of the Secretary of the Treasury, prescribing acts to be done and evidence to be furnished by exporters of American manufacture to entitle them to "the allowance and drawback prescribed by the 297th section of the internal revenue act."

There is a manifest error, either in the drafting or the copying of the resolution, as there is no "297th section" in any internal revenue act, or authorized compilation of such acts. The enclosed circulars, however, are all that have been issued relating to any branch of internal revenue drawback. It will be observed from the indorsements that several of them are no longer in force.

Yours, respectfully,

H. McCULLOCH,
Secretary of the Treasury.

Hon. S. COLFAX,
Speaker of the House of Representatives.

TREASURY DEPARTMENT, *October 1, 1863.*

The following regulations, prepared by this department, are transmitted for the information and government of officers of the customs, and of officers of internal revenue.

These regulations are to be enforced on and after the 15th day of October

next, at the ports of Boston, New York, Philadelphia, and Baltimore. At all other ports of the United States the regulations prescribed in decision No. 64 of the Commissioner of Internal Revenue on this subject are to be enforced.

S. P. CHASE,

Secretary of the Treasury.

Amended circular instructions to collectors and other officers of the customs, and to assessors and collectors of internal revenue, in reference to allowance or drawback on duties paid, and the remission of duties, or the cancellation of the bonds, where merchandise is removed from the place where manufactured or produced under bond for the purpose of exportation.

I.

In reference to allowance or drawback of internal revenue duties paid.

Section 116 of the act to provide internal revenue is as follows :

And be it further enacted, That from and after the date on which this act takes effect, there shall be an allowance or drawback on all articles on which any internal duty or tax shall have been paid, except raw or unmanufactured cotton, equal in amount to the duty or tax paid thereon, and no more, when exported, the evidence that any such duty or tax has been paid to be furnished to the satisfaction of the Commissioner of Internal Revenue, by such person or persons as shall claim the allowance or drawback, and the amount to be ascertained under such regulations as shall, from time to time, be prescribed by the Commissioner of Internal Revenue, under the direction of the Secretary of the Treasury; and the same shall be paid by the warrant of the Secretary of the Treasury on the Treasurer of the United States out of any money arising from internal duties not otherwise appropriated: *Provided*, That no allowance or drawback shall be made or had for any amount claimed or due less than \$20, anything in this act to the contrary notwithstanding: *And provided further*, That any certificate of drawback for goods exported, issued in pursuance of the provisions of this act, may, under such regulations as may be prescribed by the Secretary of the Treasury, be received by the collector or his deputy in the payment of duties under this act; and the Secretary of the Treasury may make such regulations with regard to the form of said certificates, and the issuing thereof, as in his judgment may be necessary: *And provided further*, That in computing the allowance or drawback upon articles manufactured exclusively of cotton, when exported, there shall be allowed, in addition to the three per centum duty which shall have been paid on such articles, a drawback of five mills per pound upon such articles, in all cases where the duty imposed by this act upon the cotton used in the manufacture thereof has been previously paid; the amount of said allowance to be ascertained in such manner as may be prescribed by the Commissioner of Internal Revenue, under the direction of the Secretary of the Treasury.

Section 35 of the act to amend the act of July 1, 1862, approved March 3, 1863, is as follows :

SEC. 35. *And be it further enacted*, That the evidence of exportation to entitle to benefit of drawback under the act to provide internal revenue, to which this act is an amendment, and the rules and regulations pertaining thereto, shall be the same as those which are now or may be required to entitle the exporter to benefit of drawback under the acts relating to drawbacks of duties on imports, with such other rules and regulations as the Secretary of the Treasury may prescribe; that the bureau in charge of exports for the benefit of drawback

under the acts as aforesaid, at the port of New York, (and at such other ports as the Secretary of the Treasury may designate,) shall have charge of the same under the act to which this act is an amendment ; that the head of such bureau shall be invested with the authority and receive the emoluments of a deputy of the collector of customs ; and that the said bureau shall, under the direction of the collector of customs, embrace the supervision of all exports entitled to remission of duties, or to drawback of duties paid, under the acts above mentioned ; the ascertaining and certifying such duties ; the taking and cancellation of required bonds ; the charge of all export entry papers for the benefit of drawback and officers' returns thereon, and of certificates in proof of the landing of such exports abroad: *Provided*, That nothing herein contained shall be construed to change or modify the existing mode of paying the drawbacks and debentures allowed by the laws before referred to.

To entitle the exporter to the allowance or drawback provided for in the sections above quoted, he must, at least six hours previous to the putting or lading any of the articles intended to be exported by him for benefit of drawback on board any vessel or other conveyance for exportation, lodge with the collector of the customs for the district from which such exportation is to be made, an entry setting forth his intention to export such articles, and the marks, numbers, and a particular description of the same, with their quantity and value, and designating the manufacturer thereof, the place where deposited, the name of the vessel or other conveyance in or by which, and the port or place to which, the same is intended to be exported, and also describing in such entry when, where, by whom, to whom, and rate and amount of duty or tax paid.

The entry will be in the following form :

FORM A.


DIRECT EXPORT OF MERCHANDISE FOR DRAWBACK, UNDER THE ACTS TO PROVIDE INTERNAL REVENUE.

Entry of merchandise upon which duties or taxes have been paid, under the acts to provide internal revenue, intended to be exported by _____, on board the _____, master, for _____, for the benefit of drawback under said acts.

_____, 186—.

Marks.	Nos.	Number and specific description of articles.	Quantity.	Value.	Where deposited.

<div>NOTE.—Upon filing his entry, the exporter must, if possible, under the appropriate headings, give specific information on the several points indicated ; if not possible at the time of entry, he may subsequently complete his papers in this particular, and, before the clearance of the vessel, must execute the required bond and take the required oath.</div>	Where manu- factured or produced.	By whom duty or tax paid.	To whom duty or tax paid.	When paid.	Rate of duty or tax paid.	Am't of duty or tax paid.

Exporter's signature. 

On the receipt of this entry, in triplicate, the collector shall examine, or, where there is a surveyor at his port, shall direct that officer to examine, by himself or deputy, the articles described in the entry, and ascertain whether the same be as stated, and, if so found, mark with some appropriate device or appendage each article or package thereof. The direction to the surveyor will be in the following form :

FORM B.

FOR DRAWBACK UNDER INTERNAL REVENUE ACTS.

Collector's order to surveyor.

PORT OF ———, ———, 186—.

To the SURVEYOR: You will inspect, by yourself or deputy, the following described articles of merchandise, claimed to have been manufactured or produced in the United States, and upon which duty or tax is claimed to have been paid, under the acts to provide internal revenue, viz :

Marks and numbers.	Number and description of articles.

Entered for exportation by ———, in the ———, ———, master, for ——— and now deposited at ———; and if the same be found as represented, mark each article or package thereof, as required by the regulations, and make report forthwith to this office.
(Fees, 20 cents.) ———, *Collector*.

Inspector ——— will inspect sample, if feasible, and mark the above described articles. ———, *Surveyor*.

PORT OF ———, ———, 186—.

I certify that I have examined the merchandise described in the within order, viz: ———, and find it to be ———.
——— samples taken. ———, *Inspector of Customs*.

SURVEYOR'S OFFICE, ———, ———, 186—.

Samples of the merchandise specified in the within order have been examined, and it is found to be ———.
———, *Surveyor*.

APPRAISER'S OFFICE, ———, ———, 186—.

I certify that samples submitted for my inspection by the surveyor, as representing the merchandise described in the within order, are ———.
———, *Appraiser*.

Upon this order the surveyor will make return according to the facts. On the receipt of the surveyor's return, the collector, if the articles be found to be entitled to drawback, shall transmit to the surveyor the entry lodged with him by the exporter, with direction to have the weight, gauge, measure, or count, as the case may require, of the said articles ascertained and returned, and the same laden for exportation. This direction, countersigned by the naval officer, where there is one, will be in the following form :

FORM C.

FOR DRAWBACKS UNDER INTERNAL REVENUE ACTS.

Order for examination and shipment.

PORT OF ———, ———, 186—.

To the SURVEYOR: You will examine the articles of merchandise described in the annexed entry; cause the weight, gauge, measure, or count (as the case may require) of the same to

be ascertained, and, if found to agree in all respects with the description in the annexed entry and certificates, superintend the lading thereof on board the ———, ———, master, for ———, and make the return to this office.

(Fees, 90 cents.)

————, *Collector.*
 ———, *Naval Officer.*

The service of superintending the lading for exportation must in all cases, when practicable, be performed by the officer who made the original inspection, who will be careful to examine the articles in order to identify them, and, upon the lading thereof being completed, will make return in the following form:

FORM D.

Return of lading.

I hereby certify that the merchandise described in the within entry, having been examined by me, and found to agree in all respects with the description thereof, the same has been laden, under my supervision, on board the ———, ———, master, for ———.
 ———, *Inspector of Customs.*

Weigher, ———.

————, 186—.

These proceedings having been had, and the entry with the certificate of lading thereon returned to the collector, the exporter shall, before the clearance of the vessel in which the exportation is made, take and subscribe an oath or affirmation in the following form:

FORM E.

FOR DRAWBACK UNDER INTERNAL REVENUE ACTS.

Exporter's oath.

STATE OF ———, }
 Port of ———, } ss.

————, being duly sworn, says, that the merchandise examined under the annexed order, and now laden on board the ———, ———, master, is the identical merchandise set forth and described in the entry also hereto annexed; and that the same is truly intended to be exported to ———, and not to be brought back or relanded within the United States; that the amount of drawback of duty or tax claimed thereon is \$———, and that ——— is justly entitled thereto.

Sworn before me this ——— day of ———, 186—.

————,
Dep. Collector of Customs.

(5 cent stamp.)

The exporter shall also give bond to the United States, with two sureties, one of whom shall be the master or other person having charge or command of the vessel or other conveyance in or by which the said merchandise is intended to be exported, in a sum equal to the full value of said articles, said bond to be executed before the vessel is cleared at the custom-house, and to be in the following form:

FORM F.

ON EXPORT OF MERCHANDISE FOR BENEFIT OF DRAWBACK, UNDER THE PROVISIONS OF THE ACTS TO PROVIDE INTERNAL REVENUE.

BOND, No. —.

Know all men by these presents, that we, ———, ———, and ———, and ———, are held and firmly bound to the United States of America in the sum of ——— dollars, for the payment of which, well and truly to be made, we bind ourselves, our heirs, executors, and administrators, jointly and severally, firmly by these presents.

Witness our hands and seals this ——— day of ———, in the year one thousand eight hundred and sixty——.

Whereas the above bounden, _____, ha—laden on board the _____, _____ master, for _____, to be exported for benefit of drawback, under the provisions of the 116th section of the act of July 1, 1862, and acts supplementary thereto, certain merchandise, consisting of:

Marks.	Numbers.	Number and description of articles.	Quantity.	Value.

upon which duties or taxes have been paid, or secured to be paid, as set forth in an export entry of merchandise, and papers thereto annexed, lodged with the collector of the port of _____, by said _____, and bearing the same number herewith; and which _____ found by the inspector of the customs at said port of _____, to be in quantity _____:

Now, therefore, the condition of this obligation is, that if the aforesaid merchandise, or any part thereof, be not relanded in any port or place within the limits of the United States, (shipwreck or other unavoidable accident excepted,) and if the certificate and other proofs required by law, and the regulations of the Treasury Department of the United States, of the delivery of the same, at the aforesaid port of _____, or at any other port or place without the limits of the United States, shall be produced at this office within _____ year from the date hereof, then this obligation to be void, otherwise to remain in full force.

Sealed and delivered in presence of _____.

(25 cent stamp.)

In order to complete the evidence, the party claiming drawback may, either at the time of the entry for exportation, or at any time within sixty days after the clearing of the vessel, file with the collector of customs a certificate from the collector of internal revenue to whom the duty or tax was paid, and also an affidavit from the manufacturer or producer of the merchandise on which the drawback is claimed, which certificates and affidavits will be in the following forms:

FORM G.

Certificate of collector of internal revenue.

I, _____, collector of internal revenue, in the _____ district, in the State of _____, do certify that the internal revenue duty or tax, at the rate of _____, amounting to _____¹⁰⁰ dollars, has been paid by _____, of _____, upon the following described merchandise, viz: _____

Marks and numbers, } _____
or brand, } _____
Witness my hand and official seal, this _____ day of _____, A. D. 186—.
_____, Collector.

FORM H.

Affidavit of manufacturer or producer.

STATE OF _____, }
County of _____, } :ss

_____, being duly sworn, according to law, doth depose and say, that the internal revenue duty or tax, at the rate of _____, amounting to _____¹⁰⁰ dollars, has been paid by me to _____, esq, collector of internal revenue for the _____ district and State of _____, upon the following described merchandise, manufactured and produced by me, viz: _____

Marks and numbers, } _____
or brands, } _____

Sworn and subscribed before me, this _____ day of _____, A. D. 186—.
_____, Notary Public.

(5 cent stamp.)

[The affidavit must be executed before a notary public or a magistrate having a seal; or, if executed before a justice of the peace, there must be a certificate from a proper officer that such person is duly authorized to administer oaths.]

The articles having been duly laden for exportation, the exporter having taken the prescribed oath and executed the required bond, the foregoing regulations having been fully complied with, and the vessel having been duly cleared, the collector, in conjunction with the naval officer, where there is one, shall ascertain the amount of drawback to be paid, and in strict accordance with the results of the investigations made, shall grant a certificate for the net amount of such drawback in the form annexed.

FORM I.

CUSTOM-HOUSE, COLLECTOR'S OFFICE,

No. ____.

_____, 186--.

I hereby certify that satisfactory evidence has been filed in this office that the internal revenue tax, at the rate of _____, amounting to _____ dollars, has been paid by _____, of _____, to _____, esq., collector of internal revenue for the _____ district, of the State of _____, on the following described merchandise, viz:

That, on the days following, to wit, _____, there were exported from this port to the port of _____, of said described merchandise, as follows: _____

And I do further certify that the entry of said goods was made in due form, at this office, for the purpose of claiming drawback, and that the proper bond, conditioned that the said goods be not relanded within the United States, has been executed; and further, that _____, of _____, — entitled to drawback thereon, amounting to _____ dollars, as provided by the 116th section of the excise law, and the 35th section of the amendments thereto, approved March 3, 1863.

Witness my hand and official seal, this _____ day of _____, A. D. 186--.

_____, *Collector.*

Countersigned:

_____, *Naval Officer.*To _____, *Commissioner of Internal Revenue.*

Upon the granting of said certificate the collector will forward the same, together with duplicates of all the papers in the case, excepting the bond, form F, to the Commissioner of Internal Revenue, who, if on examination he shall find the same satisfactory, will award the amount due the claimants. The amount so awarded will be paid by a warrant of the Treasurer of the United States, to the order of the party entitled thereto, and forwarded to them or him, to the care of the collector of the customs at the port where the claim was adjusted, who will deliver the same to the parties or their agents, upon their giving him a proper receipt therefor on the margin of the book of record of these cases, to be prepared and kept by the said collectors.

II.

In reference to the remission of duties or the cancellation of the bonds in cases where bonds are given to the collectors of internal revenue, conditioned to export the goods therein named or pay the duties thereon, with interest.

Section 47 of the act to provide internal revenue is as follows:

And be it further enacted, That distilled spirits may be removed from the place of manufacture for the purpose of being exported, or for the purpose of being redistilled for export, and refined coal oil may be removed for the purpose of being exported, after the quantity of spirits or oil so removed shall have been ascertained by inspection, according to the provisions of this act, upon and with the written permission of the collector or deputy collector of the district, without

payment of the duties thereon previous to such removal, the owner thereof having first given bond to the United States, with sufficient sureties, in the manner and form and under the regulations prescribed by the Commissioner of Internal Revenue, and in at least double the amount of said duties, to export the said spirits or oil or pay the duties thereon within such time as may be prescribed by the commissioner, which time shall be stated in said bond : *Provided*, That any person desiring to give such bond shall first make oath, before the collector or deputy collector to whom he may apply for a permit to remove any such spirits or oil, in manner and form to be prescribed by said commissioner, that he intends to export such liquors or oil, and that he desires to obtain said permit for no other purpose whatever ; and any collector or deputy collector is hereby authorized to administer such oath : *And provided further*, That no such removal shall be permitted where the amount of duties does not exceed the sum of three hundred dollars, nor in any case where the person desiring such permission has failed to perform the obligation of any bond previously given to the United States for the removal of any such articles, until the same shall have been fully kept and performed. And the collector of the district in which any such bond may be given is authorized to cancel said bond on payment of said duties, with interest thereon, at a rate to be fixed by said commissioner, and all proper charges, if said liquors or oil shall not have been exported, or upon satisfactory proof that the same have been duly exported as aforesaid. And in case of the breach of the obligation of any such bond, the same shall be forthwith forwarded by the collector of the district to the Commissioner of Internal Revenue, to be by him placed in the hands of the First Comptroller of the Treasury, who shall cause the same proceedings to be taken thereon for the purpose of collecting the duties, interest, and charges aforesaid, as are provided in this act in case of a delinquent collector.

Section 109 of the same act provides as follows :

Provided, That medicines, preparations, compositions, perfumery, and cosmetics, upon which stamp duties are required by this act, may, when intended for exportation, be manufactured and sold, or removed without having stamps affixed thereto, and without being charged with duty as aforesaid ; and every manufacturer or maker of any article as aforesaid, intended for exportation, shall give such bonds and be subject to such rules and regulations to protect the revenue against frauds as may be from time to time prescribed by the Secretary of the Treasury.

Section 34 of the act of March 3, 1863, provides as follows :

That manufactured tobacco may be removed from the place of manufacture for the purpose of being exported, after the quantity and quality to be so removed shall have been ascertained by inspection, according to the provisions of this act, upon and with the written permission of the collector of the district, without payment of the duties thereon previous to such removal, the owner thereof having given bond to the United States, with sufficient sureties, in the manner and form and under regulations to be prescribed by the Commissioner of Internal Revenue, and in at least double the amount of said duties, to export the said manufactured tobacco or pay the duties thereon within such time as may be stated in the bond ; and all the provisions relative to the exportation of distilled spirits in bond, contained in the act to which this is an amendment, as far as the same may be applicable, shall be applied to the exportation of tobacco in bond : *Provided, however*, That nothing herein contained shall be considered to apply to snuff, fine-cut tobacco, or cigars.

To entitle the exporter to a certificate that the goods have been exported and the bond given to secure the payment of the duties on said goods, if not exported, is entitled to be cancelled, under the provisions of the foregoing

sections, he must, at least six hours previous to the putting or lading any of the articles intended to be exported by him on board any vessel or other conveyance for exportation, lodge with the collector of the customs for the district from which such exportation is to be made, an entry setting forth his intention to export such articles, and the marks, numbers, and a particular description of the same, with their quantity and value, and designating the manufacturer thereof, the place where deposited, the name of the vessel or other conveyance in or by which, and the port or place to which, the same is intended to be exported, and also describing in such entry when, where, by whom, to whom, and rate and amount of duty or tax secured to be paid, if the goods are not exported.

FORM J.


DIRECT EXPORT OF MERCHANDISE FOR THE PURPOSE OF SECURING THE CANCELLATION OF A BOND GIVEN FOR EXPORT, UNDER THE ACTS TO PROVIDE INTERNAL REVENUE.

Entry of merchandise upon which duties or taxes have been by bond secured to be paid, if the same are not exported under the acts to provide internal revenue, intended to be exported by _____, on board the _____, _____, master, for _____, for cancellation of bond, or remission of said duties or taxes under said acts.

_____ 18__.

Marks.	Nos.	Number and specific description of articles.	Quantity.	Value.	Where deposited.

<div>NOTE.—Upon filing his entry, the exporter must, if possible, under the appropriate headings, give specific information on the several points indicated; if not possible at the time of entry, he may subsequently complete his papers in this particular, and, before the clearance of the vessel, must execute the required bond and take the required oath.</div>	Where manu- factured or produced.	By whom duty or tax secur- ed to be paid.	To whom duty or tax secur- ed to be paid.	When secured to be paid.	Rate of duty or tax secured to be paid.	Am't of duty or tax secured to be paid.

Exporter's signature. 

On the receipt of this entry, thus accompanied and verified, the other proceedings in the case, as to the inspection by surveyor, examination, shipment, oath of exporter, and bond that the merchandise will not be relanded within the United States, will be the same as that where the parties desire to claim drawback, and as is more particularly set forth in so much of this circular as relates to that subject.

To complete the evidence in this case, the parties may at any time after the clearance of the vessel, and within the time named in the bond given to the collector of internal revenue for the exportation of said merchandise, file with the collector of the customs a certificate from the said collector of internal revenue, showing the description of the goods, that the parties have executed the required bond, that the same is now in his possession, and that the said

merchandise has been removed from his district with his knowledge and consent, and will also file with said collector of customs an affidavit of the manufacturer or producer of said merchandise, setting forth a description of the same, that the same was manufactured or produced by him, that the duties or taxes imposed by law have been secured by bond, to be paid (if the same are not exported) to the collector of the district from which the said merchandise was removed.

The articles having been duly laden for exportation, the exporter having taken the prescribed oath and executed the required bond, and the vessel having been duly cleared, the collector, in conjunction with the naval officer, where there is one, shall ascertain the kind of merchandise, and the quality and amount thereof, so exported, and whether the quality and amount so exported corresponds with the quality and amount to export which the said bond was given; and if they find that they do so correspond in kind of merchandise and quality, they will issue a certificate directed to the collector of internal revenue to whom the said bond was given describing the same particularly, and stating the amount thereof that has been actually exported, which certificate shall be in the form following:

FORM K.

OFFICE OF THE COLLECTOR OF CUSTOMS,

No. —.

Port of —, —, 186—.

This is to certify that it appears upon the records of this office that there was exported from this port by —, of —, in the —, whereof — was master, for the port of —, on the — day of —, 186—, the following articles of merchandise, viz:

Marks and numbers.	Quantity.	Description.

That the entry of said merchandise was made in this office in the manner required of parties who export under bonds given to secure the payment of internal revenue duties; and I further certify that if the above kind of merchandise, and the quality, quantity, and amount thereof is the same kind of merchandise, quality, quantity, and amount mentioned in the bond given to you to secure the payment of the duties thereon, by —, of —, then —he— are entitled to have the same cancelled and declared void; if not the same quality, quantity, and amount, then —he— are entitled to have remission of duties for so much thereof as has been exported, a bond having been filed in this office that the same will not be relanded within the United States.

Witness my hand and official seal this — day of —, A. D. 186—.

—, *Collector.*

Countersigned:

—, *Naval Officer*

To —, Esq.,

Collector of Internal Revenue,
— district, State of —.

This certificate must be obtained by the exporter or his agent from the collector of customs, and furnished to the collector of internal revenue, within the time named in the bond, in order to secure its cancellation.

If there is any claim for leakage, on the amount exported, a certificate of a United States inspector and oath of the party making the claim must also be furnished.

III.

In reference to shipments to a factor or agent for exportation.

In case a large quantity of merchandise is consigned by the manufacturer thereof to his agent at a seaport, to be sold for export from that port in quantities to suit purchasers, or in case a large quantity of spirits, coal oil, tobacco, or proprietary articles are removed under bond from the place where produced to the hands of an agent at the seaport, by him to be sold and exported in such quantities as may seem most convenient, the following method may be pursued:

At the time that said merchandise is consigned by the manufacturer or producer thereof to his said agent, he will also transmit to him an invoice of the same, in triplicate, which invoice shall have indorsed thereon a certificate from the collector of internal revenue, and an affidavit from the said manufacturer or producer, and will be in the following form:

FORM L.

No. —.

Invoice of merchandise, intended for export, manufactured or produced by —, at —, consigned to — port of —, and on which the internal revenue tax has been* — paid to —, collector of district No. —, State of —, on the — day of —, A. D. 186—.

Marks.	Nos.	Specific description of merchandise.	Quantity.	Value.	Rate of tax.	Amount of tax.

Dated at —, this — day of —, A. D. 186—.

—, *Manufacturer.*

FORM M.

Certificate of collector of internal revenue.

I, —, collector of internal revenue in the — district, in the State of —, do certify that the internal revenue duty or tax upon the merchandise set forth and described in the within invoice, has been* — paid, by —, of —, as therein stated, to wit, on the quantity therein stated, viz: — at the rate of —, amounting to — dollars.

Witness my hand and seal, this — day of —, A. D. 186—.

—, *Collector.*

FORM N.

Affidavit of manufacturer or producer.


STATE OF —, }
County of —, } ss.

—, being duly — according to law, deposes and says, that the merchandise described in the within invoice was manufactured or procured by deponent at —, and that the duties or taxes imposed by law thereon have been* — paid, in the manner, at the rate, and to the amount in said invoice stated.

— before me, this — day of —, A. D. 186—.

—, *Notary Public.*

(5 cent stamp.)

 The affidavit must be executed before a notary public or magistrate having a seal: or if executed before a justice of the peace, there must be a certificate from a proper officer that such person is duly authorized to administer oaths.

* If the goods have been removed under bond for export, the words "secured by bond to be" will be here inserted.

This invoice, together with the certificate and affidavit, will be executed in triplicate.

Upon the parties desiring to export any of the merchandise mentioned in the foregoing invoice, either for the purpose of claiming drawback or securing the cancellation of a bond given for export, the same will be filed with the collector of customs, in triplicate, and an entry made (in forms A or J, as the case may require) of the amount of the merchandise named in the invoice at that time designed to be exported. This entry will be accompanied by an affidavit from the consignee or agent, stating that the merchandise mentioned in said entry is part of the merchandise mentioned in the said invoice, and that the parties are entitled to drawback or to the cancellation of bond for so much thereof as is then exported.

Upon the filing of said invoice, accompanied by entry and affidavit of exporter, the other proceedings as to inspection, examination, shipment, oath, and bond will be the same as are hereinbefore mentioned.

At every subsequent exportation of any of the merchandise named in the said invoice, the same proceedings will be had until the whole is exhausted, and each shipment, with the date thereof, &c., will be indorsed on the invoice.

Upon the evidence as to any one specific shipment being completed, if a claim for drawback is to be made thereon, the collector of the customs will issue a certificate (form I) and forward the same, together with the duplicates of all the papers in the case, to the Commissioner of Internal Revenue. If a bond is desired to be cancelled he will issue a certificate (form K) showing the amount of the merchandise named in said invoice at that time exported, and deliver the said certificate to the exporter, to be by him used in securing the cancellation of the bond given for export.

In the first claim for drawback on any goods exported, an invoice for which has been made and filed in the custom-house as hereinbefore described, the duplicate invoice must be sent to the office of the Commissioner of Internal Revenue, with the said claim, and reference may be made thereto upon any subsequent claims being made on the merchandise named therein.

If coal oil is removed from a bonded warehouse, for the purpose of exportation, then the foregoing certificate M, instead of being from the collector of the district where the oil was produced, will be from the collector of the district in which the bonded warehouse is situated. And the affidavit N, instead of being from the manufacturer or producer of said oil, will be from the owner or agent who receives it from the bonded warehouse.

IV.

In reference to merchandise shipped coastwise or inland to another district for exportation.

When articles of merchandise are shipped coastwise or inland from the district in which the entry thereof is made to another district, for exportation thence for benefit of drawback, or for the purpose of securing the cancellation of bond given for export, the person shipping the same shall deliver to the collector of the first-mentioned district, at least six hours before lading such articles on board any vessel or other conveyance, an entry of the same in one or other of the forms A or J, as the case may require.

The same examination and proceedings shall be had, the same oaths or affirmations and certificate, and the same bond taken, as above prescribed, on entry for direct export, except that in case the articles are intended to be trans-

shipped before actual clearance from the United States, then, in place of the master on the bond as aforesaid, the collector will take other satisfactory surety.

All things having been done as in case of direct export, a copy of the entry, duly certified, shall be transmitted, by the collector with whom the same is lodged, to the collector of the port from which the exportation is intended to be made.

On the receipt of this copy-entry and the arrival of the articles therein mentioned at the last-mentioned port, the collector thereof will make, or direct the surveyor to make, careful examination of said articles, and if he find them to be, without change or diminution, the articles set forth and described in said entry, note the shipment, or, if transshipped, superintend the same; and, further, in case of transshipment, he shall take from the master, or other person having charge of the vessel, or other conveyance into which said articles are transshipped, an undertaking as hereinafter directed. All which having been done, the collector of the said last-mentioned port will grant to the exporter, or his agent at that port, a certificate, and also forward to the collector of the port of original entry a duplicate thereof.

Said certificate thereof will be in the following form:

FORM O.

Certificate of exportation.

No. —.

DISTRICT OF —, Port of —, 186—.

We hereby certify that the articles of merchandise hereinafter specified, entered for benefit of drawback under the internal revenue acts, at the port of —, by —, for exportation to —, by way of —, were brought into this port by —, on board the —, on the — day of —, 186—, and that the same having been carefully examined, and found to be, without change or diminution, the articles set forth and described in transportation entry No. —, at said port of —, were duly exported on the — day of —, 186—, by —, in the —, master, for —; and, further, that said master has entered into the undertaking hereto annexed:

Marks.	Nos.	Number and description of packages.	Quantity.	Value.	Remarks.

—, Collector.

—, Naval Officer.

The aforesaid undertaking of the master or other person having charge or command of the vessel or other conveyance in or by which the said articles are exported will be in the following form:

FORM P.

DISTRICT OF —, Port of —, 186—.

I, —, master of the —, on board which the articles in the within certificate mentioned are now laden for exportation for benefit of drawback, under the internal revenue acts, do, in consideration of such lading, hereby undertake and become bound as surety for the exporter on his bond, heretofore in this behalf given.

Witness, —.

(5 cent stamp.)

On the receipt of the last-mentioned certificate by the collector with whom said entry is lodged, he, in conjunction with the naval officer, shall ascertain the amount of drawback to be paid, or the quality, quantity, and amount of merchandise exported under the bond, in the manner already prescribed, and grant to the exporter or to his order a certificate therefor.

GENERAL REGULATIONS.

Collectors of internal revenue may cancel bonds given for export of spirits, coal oil, tobacco, or proprietary articles, in three ways, viz :

1. Upon the payment of the duties thereon, with interest to the time of such payment.
2. Upon receiving a certificate (in case of spirits and coal oil) that the same have been deposited in a bonded warehouse.
3. Upon receiving a certificate (form K) that the merchandise has been exported.

In case the said certificates do not show that the whole amount of said merchandise has been deposited in a bonded warehouse or exported, then before the bond can be cancelled the parties must pay the duties, with interest on the balance.

When collectors of internal revenue have cancelled a bond given for export, they must forward the same, together with the evidence, to the Commissioner of Internal Revenue for approval.

The manner of cancelling bonds given for export will be as follows : The collectors will strike out the signatures to the bond, and will mark across the face thereof, in red ink, that the same is cancelled, and will state the evidence upon which the cancellation took place and the date thereof, to which statement he will sign his name and affix his seal.

Whenever the exporter of any articles of merchandise for benefit of drawback or cancellation of bond, under the acts to provide internal revenue, shall have failed to complete his entry therefor, in respect to the oath or bond required by law, within the period prescribed, and shall offer to complete such entry after the expiration of such period, he will make application for permission to do so to the Commissioner of Internal Revenue, setting forth the cause of his failure or omission under oath or affirmation. The application will be forwarded through the collector with whom such entry is lodged, and will be accompanied by a statement under the hand of such collector of all the circumstances attending the transaction within his knowledge, together with the certificates that the requirements of law and these regulations have been fully complied with, except in the particular or particulars set forth in the application ; whereupon, if the evidence be satisfactory that the omission to complete the entry was accidental, or without intention to evade the law or defraud the revenue, directions will be given for the completion of the entry and the issue of the certificate of drawback.

The bonds taken for the landing of any articles of merchandise beyond the limits of the United States, as herein above provided, shall and may be discharged in the same manner as bonds taken on entries of dutiable merchandise exported from warehouse ; and in cases where certificates directed by law cannot be obtained, the exporter shall be permitted to offer such other evidences of landing beyond the limits of the United States as he may have ; and if the same be deemed sufficient by the collector, he shall accept the same, except where the drawback allowed shall amount to one hundred dollars or more, in which case the proofs shall be submitted to the Commissioner of Internal Revenue, whose decision thereon shall be final.

Such bonds, when given in the name of a firm, will be required to be executed

by all the partners of such firm, and no clerk or other person in the employ of the principal or principals will be allowed as surety on said bonds; and such bonds, if not cancelled or extended in the manner prescribed by law, will be passed over to the United States district attorney for collection at the expiration of thirty days after the same become due.

Care should be taken by the bureaus in charge of drawback that the proper internal revenue stamps are affixed and cancelled on the different documents requiring the same, herein mentioned. The stamps in all cases are to be furnished by the parties for whose benefit the claim is made.

When parties wish to remove merchandise for export, before the period for the payment of the duties thereon, they may, if they desire, make a special return thereof to the assessor, who will forthwith transmit the same to the collector, who will collect the tax thereon.

When parties are manufacturing goods for export for benefit of drawback, when they make the return thereof to the assistant assessor, they will describe them by such marks, numbers, or brands as may be placed thereon, and it is the duty of the assistant assessor to examine such goods to see if they are so marked, numbered, or branded. The assessor will so describe them in his return to the collector, and the goods will be known by such marks, numbers, or brands until exported.

V.

The evidence to be submitted to the Commissioner of Internal Revenue by parties who claim drawback, on merchandise exported from ports other than Boston, New York, Philadelphia, and Baltimore.

DECISION No. 64.

First. The certificate of the collector of internal revenue that the internal revenue tax upon the goods exported has been paid, which certificate shall, when possible, particularly describe the goods by their marks or otherwise, their quantity, the rate of the tax, whether it is specific or ad valorem, the amount of duty imposed, and the name of the manufacturer or producer who paid the same.

Second. The certificate of the collector, or other competent officer of the customs, to the effect that the goods upon which the drawback is claimed have been exported, which certificate shall also particularly describe the goods by their marks or otherwise, and shall set forth their quantity, the date of shipment, name of vessel, the port to which they were exported, and the name of the exporter.

Third. The affidavit of the party making the claim, or other competent person, setting forth that the goods upon which the claim for drawback is made are the identical goods upon which the internal revenue tax has been paid, as certified by the collector of internal revenue; that the said goods have been exported at the time and in the manner stated by the custom-house officer; and also the amount of the drawback claimed, and that the party making the claim therefor, is justly entitled thereto.

The affidavit must be executed before a notary public, or a magistrate having a seal; or, if executed before a justice of the peace, there must be a certificate from a proper officer that such person is duly authorized to administer oaths.

The evidence required, where parties desire the cancellation of bonds given for export, is similar to that contained in the second and third items of the foregoing.

These regulations were superseded by those of date of August 18, 1864, which are herewith transmitted.

Regulations on the subject of drawback on exported merchandise upon which an internal revenue duty has been paid.

TREASURY DEPARTMENT, OFFICE OF INTERNAL REVENUE,
Washington, August 18, 1864.

Sections 171 and 172 of the act of June 30, 1864, are as follows :

SEC. 171. *And be it further enacted*, That from and after the date on which this act takes effect there shall be an allowance or drawback on all articles on which any internal duty or tax shall have been paid, except raw or unmanufactured cotton, refined coal oil, naphtha, benzine or benzole, distilled spirits, manufactured tobacco, snuff, and cigars of all descriptions, equal in amount to the duty or tax paid thereon, and no more, when exported; the evidence that any such duty or tax has been paid to be furnished to the satisfaction of the Commissioner of Internal Revenue by such person or persons as shall claim the allowance or drawback, and the amount to be ascertained under such regulations as shall, from time to time, be prescribed by the Commissioner of Internal Revenue, under the direction of the Secretary of the Treasury, and the same shall be paid by the warrant of the Secretary of the Treasury on the Treasurer of the United States, out of any money arising from internal duties not otherwise appropriated: *Provided*, That no allowance or drawback shall be made or had for any amount claimed or due less than ten dollars, anything in this act to the contrary notwithstanding: *And provided further*, That any certificate or drawback for goods exported, issued in pursuance of the provisions of law, may, under such regulations as may be prescribed by the Secretary of the Treasury, be received by the collector or his deputy in payment of duties under this act. And the Secretary of the Treasury may make such regulations with regard to the form of said certificates and the issuing thereof as, in his judgment, may be necessary: *And provided further*, That in computing the allowance or drawback upon articles manufactured exclusively of cotton when exported, there shall be allowed, in addition to the five per centum duty which shall have been paid on such articles, a drawback of two cents per pound upon such articles, in all cases where the duty imposed by law upon the cotton used in the manufacture thereof has been previously paid; the amount of said allowance to be ascertained in such manner as may be prescribed by the Commissioner of Internal Revenue, under the direction of the Secretary of the Treasury.

SEC. 172. *And be it further enacted*, That if any person or persons shall fraudulently claim or seek to obtain an allowance or drawback on goods, wares, or merchandise, on which no internal duty shall have been paid, or shall fraudulently claim any greater allowance or drawback than the duty actually paid as aforesaid, such person or persons shall forfeit triple the amount wrongfully or fraudulently claimed or sought to be obtained, or the sum of five hundred dollars, at the election of the Secretary of the Treasury, to be recovered as in other cases of forfeiture provided for in the general provisions of this act.

Any party designing to export merchandise on which he intends to claim drawback of internal revenue duties paid thereon, will execute a special manifest thereof in duplicate, one of which he will file in the custom-house at the port of exportation. Said manifest will be in form following:

FORM A.

Special manifest—part of cargo.

PORT OF ———, ———, 186—.

Manifest of part of cargo shipped by ———, on board the ———, whereof ——— is master, for ———, upon which it is designed to claim drawback under the 171st section of the act of Congress approved June 30, 1864.

Marks.	Nos.	Packages and contents.	Quantity.	Value.	To be landed at—

_____, *Exporter.*

The exporter, at the time of filing said manifest, will execute on the back thereof an affidavit in the following form:

FORM B.

I, _____, do solemnly, sincerely, and truly _____ that the within manifest contains a full, just, and true account of all the goods, wares, and merchandise shipped by _____ on board the within named vessel, and that the quantities and values of each article are truly stated; that the internal revenue duties thereon have been paid. And I further swear that the said merchandise is truly intended to be exported to _____: So help me God.

_____ before me, this _____ day of _____, A. D. 186—.

_____, *Collector.*

The collector of customs will also indorse upon said manifest his certificate as follows:

FORM C.

CUSTOM-HOUSE, *Port of* _____, _____, 186—.

This is to certify that there was cleared from this port by _____, of _____, on board the _____, whereof _____ is master, on the _____ day of _____, A. D. 186—, the merchandise described in the within manifest, of which the original is on file in this office.

Witness my hand and seal the day and year above said.

_____, *Collector.*

The collector of internal revenue to whom the duties or taxes were paid which are sought to be refunded, will, upon application being made to him by the manufacturer of the merchandise, grant him a certificate in form following:

FORM E.

COLLECTOR'S OFFICE, _____ DISTRICT,
State of _____, _____, 186—.

This is to certify that the internal revenue tax, at the rate of _____, amounting to _____ dollars, has been paid by _____, of _____, upon the following described merchandise, viz:

Marks and numbers.	Quantity.	Description.	Value.

upon which an allowance or drawback is claimed, as provided by the 171st section of the act of Congress approved June 30, 1864.

Witness my hand and official seal the day and year above said.

_____, *Collector.*

The claimant will execute, with good and sufficient sureties, a bond in the form annexed; which bond he will file with any collector of internal revenue at the port of exportation.

FORM F.

BOND, No. —.

Know all men by these presents, that we, ———, ———, ———, and ———, and ———, are held and firmly bound to the United States of America in the sum of ——— dollars, for the payment of which, well and truly to be made, we bind ourselves, our heirs, executors, and administrators, jointly and severally, firmly by these presents.

Witness our hands and seals, this ——— day of ———, in the year one thousand eight hundred and sixty——.

Whereas the above bounden ——— ha— laden on board the ———, ———, master, for ———, to be exported for benefit of drawback, under the provisions of the 171st section of the act of June 30, 1864, and acts supplementary thereto, certain merchandise, consisting of—

Marks.	Nos.	Number and description of articles.	Quantity.	Value.

upon which duties or taxes have been paid, and upon which drawback is now claimed:

Now, therefore, the condition of this obligation is, that if the aforesaid merchandise, or any part thereof, be not relanded in any port or place within the limits of the United States, (shipwreck or other unavoidable accident excepted,) and if the certificate and other proofs required by law, and the regulations of the Treasury Department of the United States, of the delivery of the same at the aforesaid port of ———, or at any other port or place without the limits of the United States, shall be produced at this office within ——— year— from the date hereof, then this obligation to be void; otherwise, to remain in full force.

Sealed and delivered in presence of ———.

(25 cent stamp.)

Upon the above bond being filed with a collector of internal revenue, he will grant the party filing the same a certificate in form following:

FORM G.

This is to certify that there has been filed in this office, by ———, of ———, a bond in the sum of ——— dollars, conditioned that merchandise described as follows:

Marks.	Nos.	Number and description of articles.	Quantity.	Value.

shall not be relanded in any port or place within the United States.

———, Collector.

COLLECTOR'S OFFICE, ——— DISTRICT,
State of ———, ———, 1864.

Upon the claimant having obtained the foregoing evidence, he will execute an affidavit in the form following:

FORM H.

STATE OF ———:

———, of ———, and State aforesaid, being duly ——— according to law, doth depose and say as follows, to wit: That upon the ——— day of ———, A. D. 186—, the internal revenue tax, at the rate of ———, amounting to ——— dollars, was paid to ———, esq., collector of internal revenue for the ——— district, in the State of ———, as

per his certificate, herewith annexed, upon the following described articles of merchandise, viz:

Marks and numbers.	Quantity.	Description.	Value.

that upon the — day of —, 186—, there was exported from the port of — the quantity and amount of merchandise described in the manifest and certificate of the collector of customs herewith; that the said merchandise so exported is the identical merchandise upon which the tax was paid, as above mentioned; and deponent further says that —, of —, is justly entitled to the sum of — dollars, as an allowance or drawback on said merchandise, and — therefore makes this demand for the same. And deponent further says that no drawback upon the merchandise upon which this claim is made has heretofore been made by this claimant, or any other party, to —he— knowledge or belief, and that —he— will hereafter make no claim therefor.

Sworn and subscribed before me, this — day of —, A. D. 186—. — —.

This affidavit must be executed before a notary public or some magistrate having authority to administer oaths.

GENERAL REGULATIONS.

The foregoing evidence having been obtained by the party claiming drawback, he will forward the same to the Commissioner of Internal Revenue, at Washington, for examination and payment.

The bond (form F) will be lodged with a collector of internal revenue, and his certificate to that effect (form G) forwarded to the commissioner.

Collectors of internal revenue will cancel the bonds (form F) upon the parties producing to them the evidence of landing abroad prescribed by the regulations of the Secretary of the Treasury in reference to bonded warehouses, issued July 28, 1864.

If there be no collector of internal revenue at the port of exportation, then the party may file his bond not to re-land with any other collector of internal revenue.

No officer of internal revenue or of customs will, in any case, issue more than one of the certificates herein required on any one lot of merchandise without the permission from this office being first obtained.

In all cases the affidavit above mentioned must be executed by the claimant, or by some competent person for him having knowledge of the facts to which he swears. No affidavit of a clerk, agent, or attorney will be received, unless the same is accompanied by an affidavit of the principal of such clerk, agent, or attorney, stating that such clerk, agent, or attorney is in his employment, and that, to the best of his knowledge and belief, his statements are true.

If the claim be for a number of shipments, it should be accompanied by a schedule setting forth the date of the shipments, the quantity shipped, the amount claimed on each shipment, and the total amount of all the shipments.

By the act of June 30, 1864, the previous acts allowing drawback on spirits, coal oil, and tobacco are repealed. No drawback will, therefore, be allowed on the above articles exported after said date, unless the party claiming the same had, previous to the passage of said law, commenced the export by an entry at the custom-house showing his design to claim drawback.

The forms herein prescribed must in every case be strictly adhered to.

These regulations will go into operation on and after the 15th day of September next.

JOSEPH J. LEWIS,
Commissioner.

Approved :

GEO. HARRINGTON,
Acting Secretary of the Treasury.

Superseded by regulations of date of May 1, 1865, transmitted herewith.

TREASURY DEPARTMENT, May 1, 1865.

The following regulations, prepared by this department, are transmitted for the information and government of officers of the customs and of officers of internal revenue.

These regulations are to be enforced on and after the 15th day of June next.

H. McCULLOCH,
Secretary of the Treasury.

Amended circular instructions in reference to allowance or drawback.

I.

In reference to allowance or drawback of internal revenue duties paid.

Section 171 of the act to provide internal revenue is as follows :

And be it further enacted, That, from and after the date on which this act takes effect, there shall be an allowance or drawback on all articles on which any internal duty or tax shall have been paid, except raw or unmanufactured cotton, crude petroleum or rock oil, refined coal oil, naphtha, benzine or benzole, distilled spirits, manufactured tobacco, snuff, and cigars of all descriptions, bullion, quicksilver, lucifer or friction matches, cigar lights, and wax tapers, equal in amount to the duty or tax paid thereon, and no more, when exported, the evidence that any such duty or tax has been paid to be furnished to the satisfaction of the Commissioner of Internal Revenue by such person or persons as shall claim the allowance or drawback, and the amount to be ascertained under such regulations as shall, from time to time, be prescribed by the Commissioner of Internal Revenue, under the direction of the Secretary of the Treasury; and the same shall be paid by the warrant of the Secretary of the Treasury on the Treasurer of the United States, out of any money arising from internal duties not otherwise appropriated: *Provided,* That no allowance or drawback shall be made or had for any amount claimed or due less than ten dollars, anything in this act to the contrary notwithstanding: *And provided further,* That any certificate of drawback for goods exported, issued in pursuance of the provisions of law, may, under such regulations as may be prescribed by the Secretary of the Treasury, be received by the collector or his deputy in payment of duties under this act. And the Secretary of the Treasury may make such regulations with regard to the form of said certificates and the issuing thereof as, in his judgment, may be necessary: *And provided further,* That in computing the allowance or drawback upon articles manufactured exclusively of cotton when exported, there shall be allowed, in addition to the five per centum duty which shall have been paid on such articles, a drawback of two cents per pound upon such articles in all cases where the duty imposed by law upon the cotton used in the manufacture thereof

has been previously paid; the amount of said allowance to be ascertained in such manner as may be prescribed by the Commissioner of Internal Revenue, under the direction of the Secretary of the Treasury.

Section 172 of the act is as follows :

And be it further enacted, That if any person or persons shall fraudulently claim or seek to obtain an allowance or drawback on goods, wares, or merchandise, on which no internal duty shall have been paid, or shall fraudulently claim any greater allowance or drawback than the duty actually paid as aforesaid, such person or persons shall forfeit the amount wrongfully or fraudulently claimed or sought to be obtained, or the sum of five hundred dollars, at the election of the Secretary of the Treasury, to be recovered as in other cases of forfeiture provided for in the general provisions of this act.

To entitle the exporter to the allowance or drawback provided for in the sections above quoted, he must, at least six hours previous to the putting or lading any of the articles intended to be exported by him for benefit of drawback on board any vessel or other conveyance for exportation, lodge with the collector of the customs for the district from which such exportation is to be made, an entry setting forth his intention to export such articles, and the marks, numbers, and a particular description of the same, with their quantity and value, and designating the manufacturer thereof, the place where deposited, the name of the vessel or other conveyance in or by which, and the port or place to which, the same is intended to be exported, and also describing in such entry when, where, by whom, to whom, and rate and amount of duty or tax paid.

The entry will be made in the name of the real owner, party in interest, or consignee, and will be in the following form :

FORM A.


DIRECT EXPORT OF MERCHANDISE FOR DRAWBACK UNDER THE ACTS TO PROVIDE INTERNAL REVENUE.

Entry of merchandise upon which duties or taxes have been paid, under the acts to provide internal revenue, intended to be exported by _____ on board the _____, _____, master, for _____, for benefit of drawback under said acts.

_____, _____, 186—.

Marks.	Nos.	Number and specific description of article.	Quantity.	Value.	Where deposited.

NOTE.—Upon filing his entry the exporter must, if possible, under the appropriate headings, give specific information on the several points indicated; if not possible at the time of entry, he may subsequently complete his papers in this particular, and, before the clearance of the vessel, must execute the required bond and take the required oath.	Where manufactured or produced.	By whom.	To whom duty or tax paid.	When paid.	Rate of duty or tax paid.	Am't of duty or tax paid.

Exporter's signature. 

_____.

On the receipt of this entry in triplicate, the collector shall examine, or, where there is a surveyor at his port, shall direct that officer to examine, by himself or deputy, the articles described in the entry, and ascertain whether the same be as stated, and, if so found, mark with some appropriate device or appendage each article or package thereof, and superintend the lading thereof on board the vessel.

This direction will be in the following form :

FORM B.

FOR DRAWBACK UNDER INTERNAL REVENUE ACTS.

Order for examination and shipment.

PORT OF ———, ———, 186—.

TO THE SURVEYOR: You will examine and inspect, by yourself or deputy, the articles of merchandise described in the annexed entry; cause the weight, gauge, measure, or count, (as the case may require,) and value of the same to be ascertained, and, if found to agree in all respects with the description in the annexed entry, mark each article or package thereof, as required by the regulations, and superintend the lading thereof on board the ———, ———, master, for ———, and make due returns to this office.

(Fees, 90 cents.)

—————, Collector.

The appraiser will indorse upon the order his certificate in the following form :

FORM C.

Return of appraisal.

—————, ———, 186—.

I hereby certify that the merchandise described in the within entry, having been appraised by me, is found to agree in value with the description thereof.

—————, Appraiser.

The service of superintending the lading for exportation must, in all cases, when practicable, be performed by the officer who made the original inspection, who will be careful to examine the articles in order to identify them; and if he shall have cause to believe that change has been effected in the contents between the time of inspection and the time of lading, he will promptly report the facts to the collector. Upon the lading thereof being completed, he will make return in the following form :

FORM D.

Return of lading.

—————, ———, 186—.

I hereby certify that the merchandise described in the within entry, having been examined by me, and found to agree in all respects with the description thereof, the same has been laden, under my supervision, on board the ———, ———, master, for ———.

—————, Inspector of Customs.

Weigher, ———.

These proceedings having been had, and the entry, with the certificate of lading thereon, returned to the collector, the exporter*shall, before the clearance of the vessel in which the exportation is made, take and subscribe an oath or affirmation in the following form :

FORM E.

FOR DRAWBACK UNDER INTERNAL REVENUE ACTS.

Exporter's oath.

STATE OF _____, }
 Port of _____, } ss.

_____, being duly sworn, says that the merchandise examined under the annexed order, and now laden on board the _____, _____, master, is the identical merchandise set forth and described in the entry also hereto annexed; and that the same is truly intended to be exported to _____, and not to be brought back or reloaded within the United States; that the amount of drawback of duty or tax claimed thereon is \$_____, and that _____ is justly entitled thereto.

Sworn before me, this _____ day of _____, 186—.

_____, Collector.

The exporter shall also give bond to the United States, with two good and sufficient sureties, in a sum equal to the full value of said articles, said bond to be executed before the vessel is cleared at the custom-house, and to be in the following form:

FORM F.

ON EXPORT OF MERCHANDISE FOR BENEFIT OF DRAWBACK, UNDER THE PROVISIONS OF THE ACTS TO PROVIDE INTERNAL REVENUE.

Know all men by these presents, that we, _____, _____, and _____ and _____, are held and firmly bound to the United States of America in the sum of _____ dollars, for the payment of which, well and truly to be made, we bind ourselves, our heirs, executors, and administrators, jointly and severally, firmly by these presents.

Witness our hands and seals at _____, this _____ day of _____, in the year one thousand eight hundred and sixty—.

Whereas the above-bounden _____ ha laden on board the _____, _____, master, for _____, to be exported for benefit of drawback, under the provisions of the internal revenue laws, certain merchandise, consisting of

Marks.	Numbers.	Number and description of articles.	Quantity.	Value.

upon which duties or taxes have been paid, or secured to be paid, as set forth in an export entry of merchandise, and papers thereto annexed, lodged with the collector of the port of _____, by said _____, and bearing the same number herewith; and which _____ found by the inspector of the customs at said port of _____ to be in quantity _____:

Now, therefore, the condition of this obligation is, that if the aforesaid merchandise, or any part thereof, be not reloaded in any port or place within the limits of the United States, (shipwreck or other unavoidable accident excepted,) and if the certificate and other proofs required by law, and the regulations of the Treasury Department of the United States, of the delivery of the same at the aforesaid port of _____, or at any other port or place without the limits of the United States, shall be produced at this office within _____ year— from the date hereof, then this obligation to be void; otherwise, to remain in full force.

Sealed and delivered in presence of _____.

(25-cent stamp.)

In order to complete the evidence, the party claiming drawback may, either at the time of the entry for exportation or at any time within sixty days after the clearing of the vessel, file with the superintendent of exports, or, in case

there shall be no such officer at the port, with the collector of internal revenue in charge of exports, a certificate from the collector of internal revenue to whom the duty or tax was paid, and also an affidavit from the manufacturer or producer of the merchandise on which the drawback is claimed, which certificates and affidavits will be in the following forms:

FORM G.

Certificate of collector of internal revenue.

I, _____, collector of internal revenue in the _____ district, in the State of _____, do certify that the internal revenue duty or tax, at the rate of _____, amounting to _____¹⁰⁰ dollars, has been paid by _____, of _____, upon the following described merchandise, viz:

Marks and numbers, { _____
or brand. { _____

Witness my hand and official seal this _____ day of _____, A. D. 186—. _____, *Collector.*

FORM H.

Affidavit of manufacturer or producer.

STATE OF _____, {
County of _____, { *ss:*

_____, being duly sworn according to law, doth depose and say that the internal revenue duty or tax, at the rate of _____, amounting to _____¹⁰⁰ dollars, has been paid by me to _____, esq., collector of internal revenue for the _____ district and State of _____, upon the following described merchandise manufactured and produced by me, viz: _____

Marks and numbers, { _____
or brands. { _____

Sworn and subscribed before me this _____ day of _____, A. D. 186—. _____, *Collector.*

The articles having been duly laden for exportation, the exporter will file with the superintendent of exports the bill of lading, or a duplicate thereof; and the prescribed oath having been taken, and the required bond executed, the foregoing regulations having been fully complied with, and the vessel having been duly cleared, the collector shall grant a certificate in the form annexed:

FORM I.

CUSTOM-HOUSE, COLLECTOR'S OFFICE,
_____, _____, 186—.

No. _____.

I hereby certify that on the days following, to wit, _____, there were exported from this port to the port of _____, the following described merchandise, viz:

And I do further certify that the entry of said goods was made in due form, at this office, for the purpose of claiming drawback, and that the proper bond, conditioned that the said goods be not relanded within the United States, has been executed.

Witness my hand and official seal this _____ day of _____, A. D. 186—. _____, *Collector.*

To _____, *Superintendent of Exports.*

Upon the granting of said certificate the collector will forward the same, in duplicate, together with two copies of the entry, to the superintendent of exports, who, on receipt thereof, shall examine the papers and proofs, and if found sufficient, shall compute the amount of drawback, and to whom due, and certify the same to the Commissioner of Internal Revenue, forwarding to the commissioner one complete set of papers and proofs.

The evidence will be reviewed by the Commissioner of Internal Revenue, who, if, on examination, he shall find the same satisfactory, will award the amount due the claimants. The amount so awarded will be paid by a warrant of the Treasurer of the United States to the order of the party entitled thereto, and forwarded to them or him, to the care of the superintendent of exports at the port from which the goods were exported, who will deliver the same to the parties or their agents after the expiration of thirty days from the clearance of the vessel, upon their giving him a proper receipt therefor on the margin of the book of record of these cases, to be prepared and kept by the said superintendent of exports.

The duties assigned by these regulations to the superintendent of exports shall be discharged by him under the supervision of the collector of internal revenue in charge of exports. At each port where no superintendent shall have been appointed, the duties shall be discharged by the collector of internal revenue, or by a deputy collector under his supervision.

II.

In reference to shipments to a factor or agent for transportation.

In case a large quantity of merchandise is consigned by the manufacturer thereof to his agent at a seaport, to be sold for export from that port in quantities to suit purchasers, the following method may be pursued:

At the time that said merchandise is consigned by the manufacturer or producer thereof to his said agent, he will also transmit to him an invoice of the same, in triplicate, which invoice shall have indorsed thereon a certificate from the collector of internal revenue, and an affidavit from the said manufacturer or producer, and will be in the following form:

FORM L.

No. —.

Invoice of merchandise, intended for export, manufactured or produced by —, at —, consigned to —, port of —, and on which the internal revenue tax has been paid to —, collector of district No. — State of —, on the — day of — A. D. 186—.

Marks.	Nos.	Specific description of merchandise.	Quantity.	Value.	Rate of tax.	Amount of tax.

Dated at —, this — day of —, A. D. 186—.

—, Manufacturer.

FORM M.

Certificate of collector of internal revenue.

I, _____, collector of internal revenue in the _____ district, in the State of _____, do certify that the internal revenue or tax upon the merchandise set forth and described in the within invoice has been paid by _____, of _____, as therein stated, to wit, on the quantity therein stated, viz., _____ at the rate of _____, amounting to _____ ¹⁰⁰ dollars.

Witness my hand and seal, this _____ day of _____, A. D. 186—.

_____, Collector.

FORM N.

Affidavit of manufacturer or producer.

STATE OF _____, }
County of _____, } ss.

_____, being duly _____ according to law, deposes and says that the merchandise described in the within invoice was manufactured or produced by deponent at _____, and that the duties or taxes imposed by law thereon have been paid in the manner, at the rate, and to the amount in said invoice stated.

_____ before me, this _____ of _____ day, A. D. 186—.

_____, Collector.

This invoice, together with the certificate and affidavit, will be executed in triplicate.

Upon the parties desiring to export any of the merchandise mentioned in the foregoing invoice, for the purpose of claiming drawback, the same will be filed with the superintendent of exports, in triplicate, and an entry made at the custom-house (in form A) of the amount of the merchandise named in the invoice at that time designed to be exported. This entry having been made, an affidavit will be filed with the superintendent of exports by the consignee or agent, stating that the merchandise mentioned in said entry is part of the merchandise mentioned in the said invoice, and that the parties are entitled to drawback for so much thereof as is then exported.

Upon the filing of said invoice, accompanied by entry and affidavit of exporter, the other proceedings as to inspection, examination, shipment, oath, and bond will be the same as are herein before mentioned.

At every subsequent exportation of any of the merchandise named in the said invoice, the same proceedings will be had until the whole is exhausted, and each shipment, with the date thereof, &c., will be indorsed on the invoice.

Upon the evidence as to any one specific shipment being completed, if a claim for drawback is to be made thereon, the collector of the customs will issue a certificate, (form I,) and forward the same to the superintendent of exports, who will proceed thenceforward as in other cases.

In the first claim for drawback on any goods exported, an invoice for which has been made and filed as hereinbefore described, the duplicate invoice must be sent to the office of the Commissioner of Internal Revenue with the said claim, and reference may be made thereto upon any subsequent claims being made on the merchandise named therein.

GENERAL REGULATIONS.

Whenever the exporter of any articles of merchandise for benefit of drawback, under the acts to provide internal revenue, shall have failed to complete his entry therefor, in respect to the oath or bond required by law, within the period prescribed, and shall offer to complete such entry after the expiration of such period, he will make application for permission to do so to the Commissioner of Internal Revenue, setting forth the cause of his failure or omission under oath or affirmation. This application will be forwarded through the collector with

whom such entry is lodged, and will be accompanied by a statement, under the hand of such collector, of all the circumstances attending the transactions within his knowledge, together with a certificate that the requirements of law and these regulations have been fully complied with, except in the particular or particulars set forth in the application; whereupon, if the evidence be satisfactory that the omission to complete the entry was accidental, or without intention to evade the law or defraud the revenue, directions will be given for the completion of the entry and the issue of the certificate of drawback.

The bonds taken for the landing of any articles of merchandise beyond the limits of the United States, as herein above provided, shall and may be discharged in the same manner as bonds taken on entries of dutiable merchandise exported from warehouse; and in cases where certificates directed by law cannot be obtained, the exporter shall be permitted to offer such other evidences of landing beyond the limits of the United States as he may have; and if the same be deemed sufficient by the collector, he shall accept the same, except where the drawback allowed shall amount to one hundred dollars or more, in which case the proofs shall be submitted to the Commissioner of Internal Revenue, whose decision thereon shall be final.

Such bonds, when given in the name of a firm, will be required to be executed by all the partners of such firm, and no clerk or other person in the employ of the principal or principals, or custom-house broker, will be allowed as surety on said bonds; and such bonds, if not cancelled or extended in the manner prescribed by law, will be passed over to the United States district attorney for collection at the expiration of thirty days after the same become due.

Where a bond is executed through an agent holding a power of attorney, said power shall be duly executed, with all legal formalities, and shall be placed on file in the custom-house.

Care should be taken that the proper internal revenue stamps are affixed and cancelled on the different documents requiring the same herein mentioned. The stamps in all cases are to be furnished by the parties for whose benefit the claim is made.

No officer of internal revenue or of customs will, in any case, issue more than one of the certificates herein required on any one lot of merchandise without the permission from the office of internal revenue being first obtained.

In all cases the exporter's oath must be executed by the claimant, or by some competent person for him having knowledge of the facts to which he swears. No affidavit of a clerk, agent, or attorney will be received, unless the same is accompanied by an affidavit of the principal of such clerk, agent, or attorney, stating that such clerk, agent, or attorney is in his employment, and that, to the best of his knowledge and belief, his statements are true.

If the claim be for a number of shipments, it should be accompanied by a schedule setting forth the date of the shipments, the quantity shipped, the amount claimed on each shipment, and the total amount of all the shipments.

The forms herein prescribed must in every case be strictly adhered to.

These regulations will go into operation on and after the 1st day of June.

These regulations are now in force and have been since June 15, 1865.

Regulations for shipments to British provinces.

In case goods are to be shipped from a port of exportation through a frontier port to the British provinces, the following regulations will be observed:

The exporter will file his special manifest (form A) at the custom-house at said port of exportation in duplicate, and will execute thereon the affidavit, (form B,) changing each of said forms to suit the altered circumstances of the

case; and will also execute and file the bond (form F) with a collector of internal revenue, as required.

The duplicate manifest will be forwarded to the officer of the customs at the frontier port through which the goods pass, who will carefully examine the packages by the manifest, to ascertain whether they agree with the description contained therein. If the packages be found to agree in all respects with the manifest, the collector or other officer will permit the same to be sent forward without detention to their destination in the province designated, and will execute on the back of said manifest a certificate in the following form:

FORM CC.

DISTRICT OF _____,
Port of _____.

I hereby certify that the packages of merchandise described in the written manifest for exportation to —, in Canada, (or other British provinces,) have been duly inspected at this port, and delivered for exportation as aforesaid.

_____, Collector.

The manifest thus indorsed being obtained, together with the certificate of the collector of internal revenue of the payment of the duties, (form E,) the papers will be complete.

The bond (form F) will be cancelled if the exporter shall produce, within sixty days from the date thereof, a certificate, under the hand and seal of the collector or other chief revenue officer of the Canadian or other provincial port, that the merchandise described in such bond has been landed, duly entered at the custom-house of said port, and the duties, if any, imposed thereon by the laws of the province in which said port may be, fully paid, or secured to be paid.

Merchandise intended for exportation, with benefit of drawback under the internal revenue law, may be forwarded through those frontier ports through which imported merchandise may be exported, consistently with law and regulation, and no other.

W. P. FESSENDEN,
Secretary of the Treasury.

Approved:

E. A. ROLLINS,
Acting Commissioner.

Superseded by regulations approved December 26, 1865.

Regulations for drawback on shipments to the British provinces.

In case goods are to be shipped from a port of exportation, through a frontier port, to any of the British provinces, the following regulations will be observed where the drawback to be claimed on any one shipment does not exceed the sum of fifty dollars:

The exporter will file his entry, (form A,) in triplicate, at the custom-house at the port of exportation, in the same form and manner as prescribed for shipments made to other foreign ports in the amended circular instructions in reference to allowance or drawback, dated May 1, 1865, one of which entries will be transmitted to the collector, or other officer of the customs, at the frontier port through which the goods are to pass, and he will carefully examine the packages, to ascertain if they agree in all respects with those described in the entry.

If the packages are found to agree, the officer of the customs will permit them to be sent forward without detention to their place of destination, and will execute, on the back of said entry, a certificate in the form following:

FORM CC.

DISTRICT OF _____,
 Port of _____.

I hereby certify that the packages of merchandise described in the within entry for exportation to _____, in Canada, (or other British provinces,) have been duly inspected at this port, and delivered for exportation as aforesaid.

_____, Collector.

The above certificate having been obtained, the exporter will proceed in preparing the balance of his papers, in accordance with the above-mentioned circular instructions, changing each of said forms to suit the altered circumstances of the case.

The bond (form F) will be cancelled if the exporter shall produce, within ninety days from the date thereof, a certificate under the hand and seal of the collector, or other chief revenue officer of the Canadian or other provincial port, in the form following :

Certificate of chief revenue officer of the Canadian or other provincial port.

PROVINCE OF _____.

I, _____, do hereby certify that the goods, wares, and merchandise herein described, imported into this province from _____, by way of _____, were landed at the port of _____, and duly entered at the custom-house here on the _____ day of _____, 18—, and that the duties imposed by the laws in force in this province upon said goods have been paid, or secured to be paid. (Here insert a description of the goods.)

[L. S.] In witness whereof, I have hereunto set my hand and seal of office, this _____ day of _____, 186—.

_____,
 Collector, (or other chief revenue officer.)

Merchandise intended for exportation, with benefit of drawback under the internal revenue law, may be forwarded through those frontier ports through which imported merchandise may be exported, consistently with law and regulation, and no other.

If merchandise is shipped direct by sea, from a port of exportation, or if shipped direct from a frontier port to a port in the British provinces, the regulations prescribed in the amended circular instructions dated May 1, 1865, will be observed; but the bond (form F) will be cancelled, upon the exporter or exporters producing the same evidence that is required on shipments through a frontier port, as described above. Where the drawback claimed on any one shipment exceeds the sum of fifty dollars, a consul's certificate will be required, in addition to the certificate of the chief revenue officer, for the cancellation of the bond, in all cases.

These regulations will be enforced on and after January 1, 1866.

E. A. ROLLINS,
 Commissioner.

Approved December 26, 1865 :

H. McCULLOCH,
 Secretary of the Treasury.

This regulation now in force.

Regulations for the allowance or drawback of two cents per pound upon articles manufactured exclusively of cotton, when exported as provided under section 171 of the act of June 30, 1864, as amended by the act of March 3, 1865.

When a party desires to export articles manufactured exclusively of cotton, for the benefit of drawback, he must, before shipping the same from the place where they are stored, notify the collector of internal revenue of the district in which they are situated of their intention to export them.

The collector will then inspect and superintend the weighing of such articles, or direct his deputy so to do; and, after such inspection and weighing, the

officer so inspecting and superintending, will make a report in triplicate, accompanied by samples of the articles, in the form following, viz :

FORM J.

I, _____, _____ of internal revenue, do hereby certify that the following described articles, manufactured exclusively of American cotton, situated at _____, and intended for exportation to _____, have been inspected and weighed under my supervision, viz :

Specific description of articles.	No. boxes or bales.	Marks.	Numbers.	Weight.

_____, *Collector,*
Or Deputy Collector.

The collector will then certify, under the above report, in the form following, viz :

I hereby certify that the samples submitted to me of the above described articles are, to the best of my knowledge and belief, manufactured exclusively of cotton.

_____, *Collector.*

The collector of internal revenue will retain the triplicate in his office, and deliver to the manufacturer or exporter the original of the above return, and transmit the duplicate to the superintendent of exports and drawback, at the port from which the articles are to be exported.

The exporter will proceed to make his entry for drawback at the custom-house at the port of exportation, and furnish the other proofs, in accordance with the amended circular instructions, dated May 1, 1865, and file at the same time, with said entry, the return, form J.

The evidence to show that the tax was paid upon the cotton from which the articles are manufactured will consist of the affidavit of the manufacturer or producer of such articles, setting forth all the facts in the case, and must be satisfactory to the superintendent of exports and drawback, with whom it will be filed, as provided in the first paragraph on page 9 of the aforesaid instructions.

Form B of the aforesaid instructions, or order for examination and shipment, to the surveyor, shall in all cases come under these regulations, be changed so as simply to order the superintending of the lading on board the vessel, and the comparison of the marks, numbers, brands, &c., with the entry and form J.

The superintendent of exports and drawback will, when all the proofs are filed with him, transmit to the Commissioner of Internal Revenue a complete set of papers, as in case of other exports for benefit of drawback.

If the evidence submitted of the payment of tax is not considered sufficient by the superintendent of exports, he may transmit the same to the Commissioner of Internal Revenue for his decision.

These regulations will go into effect immediately.

E. A. ROLLINS,
Commissioner.

Approved April 3, 1866.

HUGH McCULLOCH,
Secretary of the Treasury.

This regulation now in force.

DISBURSEMENTS OF THE CONTINGENT FUND OF THE
TREASURY DEPARTMENT.

LETTER

FROM

THE SECRETARY OF THE TREASURY,

TRANSMITTING

*Statements of the disbursement of the contingent fund in his department, as
required by the act of August 26, 1842.*

JANUARY 18, 1867.—Laid on the table and ordered to be printed.

TREASURY DEPARTMENT,

January 16, 1867.

SIR: I have the honor to transmit herewith, as required by the 20th section of the act of August 26, 1842, the statements of the various offices of this department, showing the manner of the disbursement of the contingent fund of each for the fiscal year ending June 30, 1866.

I am, very respectfully,

H. McCULLOCH,

Secretary of the Treasury.

Hon. S. COLFAX,

Speaker of the House of Representatives.

A general statement of the condition of the fund appropriated for the contingencies for the office of the Secretary of the Treasury.

Balance due disbursing agent on the 30th of June, 1865.....	\$8, 209 09	
Expenditures from 1st July, 1865, to 30th June, 1866.....	22, 731 28	
Amount appropriated for the fiscal year ending June 30, 1866, per act.....		\$30, 940 37
Balance due disbursing agent 30th June, 1866		50, 000 00
In the treasury 30th June, 1866		19, 059 63
		32, 700 00

Contingent expenses of the office of the Secretary of the Treasury for the fiscal year ending June 30, 1866.

To whom paid.	For what object.	Amount.	Total.
P. White & Co.....	Dusters, brooms, brushes, soap, candles, &c.....		\$499 21
American Telegraph Co ..	Telegrams		4, 779 95
United States Tel. Co.	do		552 91
Insulated Lines Tel. Co.	do		2 76
People's Telegraph Co.	do		3 65
Adams Express Co.....	Express charges		555 05
Harnden's Express Co.	do		5 65
P. Flemming	Horse livery		1, 197 50
H. Blau	Laying and repairing carpets		159 16
Webb & Beveridge	Soap, tumblers, mirror, water-cooler, &c.....		98 20
G. & T. H. Dallett.....	Soap		9 55
W. H. Harrover	Water-cooler		4 00
Baltimore and Ohio R. R.	Freight		41 30
Metropolit'n Street Car Co.	Fare		12 00
Wash. & Georget'n R. R.	do		41 00
National Republican	Advertising proposals		230 75
National Intelligencer	do		208 10
Evening Star	do		139 00
Georgetown Courier.....	do		8 75
Daily Chronicle	do		128 65
H. J. Raymond & Co.....	New York Daily Times		12 00
Dunbar, Waters & Co.....	Boston Daily Advertiser		12 00
H. C. Page	New York Era		12 00
Prime, Storme, Hale & Hallock.	New York Journal of Commerce		15 75
W. B. Dana	Hunt's Merchants' Magazine and Commercial Review		5 00
Alexander Delmar	New York Social Science Review		8 00
Beals, Greene & Co.....	Boston Post		10 00
W. C. Bryant & Co.....	Evening Post		32 45
Commercial Adv. Ass'n.....	New York Commercial Advertiser		12 00
John Eaton	Memphis Post		14 00
W. C. & T. P. Church.....	United States Army and Navy Journal		12 75
L. Hatfield	Daily Globe		3 40
Autens & Brown.....	New York Price Current		9 00
H. DeMaviel	Messenger Franco-American		20 00
George W. Porter	Price Current and Weekly Journal of Commerce		10 00
Polly Hawkins	Washing towels		180 00
Washington city P. O.	Postage		205 79
L. J. Middleton	Ice		537 20
Franck Taylor	Books, printing, &c.....		1, 161 60
W. H. & O. H. Morrison	Books, &c.....		361 25
Hudson Taylor	Blackwood and four Reviews for 1865 and 1866.....		36 00
Philp & Solomons.....	McPherson's History of the Rebellion, Lippincott's Gazetteer, &c.....		76 50
Louis Thomson	Rebellion Record		5 40
Blanchard & Mohun.....	2 boxes of eyelets		1 00
James Dumars	1 copy of Assassination of President Lincoln		3 00
W. W. Cox	Copy of Benjamin Franklin's Ledger		11 00
American Publishing Co.	R. J. Richardson's book		3 50
A. R. Williams.....	14 volumes of Congressional Globe		21 00
A. Eshleman.....	1 copy of the Life and Writings of A. Lincoln		5 00
J. C. Whittall	Copy of Camp Fire and Cotton Field		2 50
C. Bohn	21 Congressional Directories		30 00
Boyd, Waite & Bros.....	18 volumes of Washington City Directories		45 00
J. Disturnell	United States Post Office Directories		27 00
James D. Duncan.....	2 copies of Mitchell's New General Atlas		18 00
S. O. Strau	Copy of Grant and Sherman's Campaigns		7 00
Johnson, Fry & Co.....	1 copy of Lives of the Presidents		10 00
Miss P. Cole	Monuments of Arts		55 00
Asa McCracken	Headley's Life, Grant and Sherman's Campaigns and Generals		4 50
H. C. Baird	Books		46 85
Horgan & Co.....	Horseshoeing		97 49

Contingent expenses, &c.—Continued.

To whom paid.	For what purpose.	Amount.	Total.
Lettie Marks	Services of nephew, Frank Dowling, in bindery	\$415 92	
Lettie Marks	Services in bindery	624 00	
			\$1,039 92
Harriet Beddo	Services in bindery		624 00
James Martin	do.		1,194 00
Jennings Paul	do.		1,200 00
Andrew Sessford	do.	1,566 23	
Andrew Sessford	Disbursements in bindery	25 78	
			1,592 01
D. Mahoney	Services rendered		2 00
James Goodman	do.		14 00
A. Clark	do.		3 00
Tim Sullivan	do.		14 00
W. W. Farr	Repairing clocks, and French shade for clock		58 00
John McDermott & Bros.	Repairing carriages, &c.		460 35
W. S. Mitchell & Co.	Crape, carpeting, &c.		1,438 27
F. A. Lutz	Harness and repairs		137 62
George B. McCartee	Disbursements as general superintendent of treasury building.		136 58
	Travelling expenses		115 04
John Jay Knox	do.		74 80
William Mathews	do.		55 00
John Kimball	Travelling from Washington to Norfolk and return		48 00
John Torrey	Scales, colors, brushes, cups, rules, &c.		117 25
James Prentice	Hair-brush and comb		4 00
J. P. Milburn & Co.	2 large Turkey sponges, brushes, &c.		14 25
W. S. Thompson	Refrigerator and two coolers		37 50
John Ogden	Lining and bottom in ice pitcher		5 50
Charles Heisell	4 gilt-frame glasses		28 00
John Wilson	3 chairs		4 20
Mrs. M. Lee	3 walnut gilt frames and glasses		52 00
Francis Lamb	Leather, ruling paste, book cloth, &c.		725 62
Cooper & Fry	Making 98 towels		12 25
Mary Brown	Huckaback, &c.		58 00
James Harris & Co.	Water-cooler		7 00
Sibley & Guy	Brushes and combs		15 00
J. Baraun	Repairing furniture		17 00
Henry Kaiser	Rebellion Record, History of the House of Commons		23 72
James C. McGuire & Co.	1 bay horse and 1 gray horse		250 00
George T. Browning, captain and A. Q. M.			
Chambers & Calder	Cement		3 00
Brewster & Baldwin	1 fine, cut under, high door rockaway		650 00
Benjamin Carr	Sealing ships' registers		16 66
G. M. Wight	Furniture		163 50
A. D. F. Randolph	Map of the United States		10 00
J. G. Osborn	Lossing's Civil War		6 00
Charles Jung	2 Charts of the World		17 00
A. T. Stewart & Co.	Merchandise		5 17
John Campbell	Grant's Cases, vol. 3		4 50
S. M. Raymond	Microscopes		9 00
King & Keys	Carriage		5 00
Casey & Connor	Repairing harness and mail bag, &c.		42 50
N. Callan	Preparing deed, &c.		1 00
J. Lowenthal	Cash paid William Babe as advance carriage hire		385 00
W. E. Clever	Doctoring horses		15 00
C. A. Cripps	Varnishing		3 00
Total			22,731 28

RECAPITULATION.

Telegrams	\$5,339 27
Ice	537 20
Books and stationery	2,575 29
Expenses of bindery	5,649 93
Newspapers	177 90
Advertising proposals	713 15
Horse livery	1,197 50
Miscellaneous	6,541 04
Total	22,731 28

TREASURY DEPARTMENT,

Office of Comptroller of the Currency, Washington, January 17, 1867.

SIR: In compliance with the provisions of the twentieth section of the act approved August 26, 1842, (5th Statutes, 527,) I transmit herewith a statement showing in detail the expenditure of the contingent fund of this bureau for the fiscal year ending June 30, 1866, and an exhibit of the state of the appropriation to that date.

Very respectfully, yours,

H. R. HULBURD,
Deputy and Acting Comptroller.

Hon. HUGH McCULLOCH,
Secretary of the Treasury.

State of appropriation.	Amount.
Amount of appropriation for year ending June 30, 1866.....	\$5,000 00
Less expended during the year, as per schedule annexed.....	1,406 22
Balance of appropriation.....	3,593 78

Statement of the contingent expenses of the office of the Comptroller of the Currency for the fiscal year ending June 30, 1866.

Date.	To whom paid.	For what object.	Amount.
1865.			
July 1	Albon Man.....	Office expenses paid.....	\$7 93
10	Hudson Taylor.....	Books.....	8 00
19	King & Burchell.....	Soap.....	3 00
21	S. Folsom.....	Printing.....	3 00
25	American Telegraph Company.....	Telegraphing.....	2 43
27	O. N. Hubbard.....	Railroad tickets.....	1 00
Aug. 1	American Telegraph Company.....	Telegraphing.....	3 80
8	William Shuster & Bro.....	Towels and table covers.....	29 00
15	American Telegraph Company.....	Telegraphing.....	3 17
22	O. N. Hubbard.....	Soap.....	40
31	Mrs. Smith.....	Making covers and towels.....	7 50
31	Jno. J. Edson.....	Drayman.....	1 00
Sept. 13	H. R. Hulburd.....	Office expenses paid.....	5 00
14	Jno. R. Hoole.....	Straw board, &c.....	86 00
19	O. N. Hubbard.....	Soap and railroad tickets.....	2 00
19	William Bush.....	Carman.....	2 00
26	O. N. Hubbard.....	Soap.....	2 00
Oct. 2	New York Evening Post.....	Subscription.....	1 85
3	United States Telegraph Company.....	Telegraphing.....	70
5	O. N. Hubbard.....	Railroad tickets.....	1 00
14	Charles Blondell.....	Printing.....	250 00
17	Bais & Co.....	Coal-hod, &c.....	2 00
17	Jno. R. Hoole.....	Paper, &c.....	107 40
20	H. R. Hulburd.....	Expenses to New York.....	27 30
21	W. W. Farr.....	Clock.....	38 00
21	L. J. Middleton.....	Ice bill.....	79 40
26	O. N. Hubbard.....	Soap.....	3 00
Nov. 1	do.....	Railroad tickets.....	1 00
3	United States Telegraph Company.....	Telegraphing.....	3 82
9	N. Weaver.....	Carting mail.....	3 00
14	Jno. Ogden.....	Water cooler.....	8 00
15	Mrs. Hawkins.....	Brooms.....	1 20
16	American Telegraph Company.....	Telegraphing.....	2 15
17	King & Burchell.....	Dusters, soap, &c.....	9 00
17	Railroad Company.....	Tickets.....	1 00
18	— Milburn.....	Whiting.....	25
18	King & Burchell.....	Bucket and brush.....	87
18	Murtagh & Co.....	Printing.....	11 00
23	O. N. Hubbard.....	Carting mail.....	2 00
27	H. W. Jennings.....	do.....	3 00
28	Boteler & Son.....	Tumblers.....	50
30	O. N. Hubbard.....	Railroad tickets.....	1 00
Dec. 1	do.....	do.....	1 00
1	United States Telegraph Company.....	Telegraphing.....	1 65

Statement of contingent expenses, &c —Continued.

Date.	To whom paid.	For what object.	Amount.
1865.			
Dec. 5	O. N. Hubbard	Railroad tickets	\$2 00
11	do	Soap	2 00
16	J. P. Milburn & Co.	do	1 00
20	C. Callender	Carrying mail	3 00
22	J. E. Crankshaw	For paper, (stockholder)	5 00
22	American Telegraph Company	Telegraphing	1 70
27	L. J. Middleton & Co	Ice bill	31 20
27	C. Callender	Carrying mail	2 00
1866.			
Jan. 1	United States Telegraph Company	Telegraphing	1 25
1	American Telegraph Company	do	1 92
1	Hudson Taylor	Pen-holders	3 00
8	C. W. Boteler	Office chair	13 00
8	do	do	12 00
13	New York Evening Post	Subscription	12 00
15	H. Blau	Work in office	28 27
17	Banis & Co.	Coal hod	1 50
23	C. Bohn	Directory	7 50
25	W. B. Dana & Co.	Daily Bulletin	12 00
Feb. 3	National Republican	Advertising	10 00
5	O. N. Hubbard	Fire-shovel	25
5	J. Q. Wilson	Chairs	21 00
7	O. N. Hubbard	Carrying mail	50
8	American Telegraph Company	Telegraphing	87
9	O. N. Hubbard	Car tickets	1 00
15	J. Disturnell	Register and Post Office Directory	5 50
27	L. M. Price	Expenses to Albany, N. Y.	55 40
Mar. 1	United States Telegraph Company	Telegraphing	36
13	O. N. Hubbard	Car tickets	1 00
14	Webb & Beveridge	Half dozen tumblers	1 50
14	Philp & Solomons	One Lippincott's Gazetteer	10 00
31	Henry Kaufman	Car tickets	1 00
31	Z. M. P. King & Son	Brooms, dusters, soap, &c	41 27
31	H. W. Jennings	Car tickets	3 00
31	Victoria Burns	Cleaning office	25 00
April 1	United States Telegraph Company	Telegraphing	3 51
2	John Hopley	Expenses to New York	20 00
May 1	United States Telegraph Company	Telegraphing	20 02
1	Victoria Burns	Cleaning office	25 00
9	Augustus Frank	For services as special agent at First National Bank, Attica.	50 00
11	American Telegraph Company	Telegraphing	1 65
11	do	do	1 41
11	H. F. Zimmerman & Co.	Chair	12 00
15	J. S. Homans	Bankers' Magazine and Register	10 00
15	do	Bankers' Almanac	2 00
June 1	H. Blau	For laying matting	14 37
5	Victoria Burns	For cleaning office	25 00
15	D. C. Forney	Advertising reports	23 50
12	American Telegraph Company	Telegraphing	3 16
16	H. R. Hulburd	Magnifying glasses	6 00
26	Webb & Beveridge	Glasses	3 00
28	L. J. Middleton & Co	Ice bill	35 00
30	N. O. Hubbard	Car tickets, and carrying mail for quarter	16 53
30	John Bull	Expenses in examining Merchants' National Bank, Washington.	87 76
	Total		1,406 22

TREASURY DEPARTMENT,
Comptroller's Office, September 5, 1866.

SIR: I have the honor to transmit herewith a general and detailed statement of the expenditure of the contingent fund of this office for the fiscal year ending June 30, 1866, prepared in compliance with the requirements of the 20th section of the act of Congress of August 26, 1842.

Very respectfully, yours,

R. W. TAYLER, *Comptroller.*

Hon. HUGH McCULLOCH,
Secretary of the Treasury.

General statement of the condition of the fund appropriated for contingencies for the office of the First Comptroller of the Treasury, as required by the 20th section of the act of Congress of August 26, 1842.

State of the appropriation.	Amount.	Total.
Amount in treasury June 30, 1865	\$1, 301 18	
Amount appropriated per act of March 2, 1865	1, 000 00	
Amount repaid by J. J. Knox, late disbursing clerk, October 14, 1865.....	267 80	\$2, 568 98
Expenditures from July 1, 1865, to June 30, 1866.....	1, 307 58	
Amount to credit of appropriation June 30, 1866.....	1, 268 98	
	2, 576 56	
Amount due disbursing clerk June 30, 1866	7 58	2, 568 98

R. W. TAYLER, *Comptroller.*

TREASURY DEPARTMENT, *Comptroller's Office, September 5, 1866.*

Statement of the contingent expenses in the office of the First Comptroller of the Treasury from June 30, 1865, to June 30, 1866.

To whom paid.	For what object.	Amount.	Total.
C. Ourand.....	Washing towels, two quarters, 1865.....	\$13 00	
C. W. Boteler & Son.....	2 dusters, \$10; 6 corn brooms, \$3; basket, \$3 50.....	16 50	
	Basin and pitcher	2 75	
Washington City post office.	Postage on foreign letters, &c.....	5 82	
C. Schneider.....	Fitting keys to locks	1 50	
J. L. Dorwart.....	Seven months' subscription to Chronicle.....	8 90	
Joseph Gawler	Covering two desks with cloth	22 00	
	Caning chair, \$1 25; repairing chairs, \$2 75	4 00	
J. L. Dorwart	Three months' subscription to Daily Chronicle.....	3 00	
S. Fisher.....	1 gross honey soap, \$1 50 per dozen.....	18 00	
Washington City post office.	Postage on foreign letters, &c.....	5 61	
C. Schneider	Repairing locks, &c.....	3 00	
C. Ourand.....	Washing towels, 3d quarter, 1865	13 00	
John Markriter	Repairing, repainting, &c., Venetian shades	14 00	
C. W. Boteler & Son	Two washstands.....	4 00	
S. D. Leib.....	McPherson's History of the Rebellion.....	5 00	\$140 08
S. J. Bowen, postmaster....	Postage on foreign letters	5 00	
J. L. Dorwart.....	Three months' subscription to Daily Chronicle.....	3 00	
L. J. Middleton & Co.....	For ice from 1st October to 31st December.....	13 00	
C. Ourand.....	Washing towels, 4th quarter, 1865	13 00	
S. Fisher.....	$\frac{1}{2}$ gross matches	3 50	
	22 $\frac{1}{2}$ yards tapestry Brussels, at \$2 25	51 00	
James Dumars	2 yards oil-cloth, \$3; $\frac{1}{4}$ dozen brooms, \$3 60	6 60	
C. Ourand.....	2 copies Trial of Conspirators, at \$4.....	8 00	
W. H. & O. H. Morrison....	Making towels.....	4 40	
L. J. Middleton & Co	3 Brightley's Digest, volume 2, \$6 50 each.....	19 50	
Sears & Bro.....	For ice from January 1 to September 30.....	72 90	
Joseph Gawler	For 42 yards towelling, &c.....	32 85	
	Repairing furniture, &c.....	16 75	
	Recovering 2 large tables with cloth.....	20 00	
H. Blau.....	Making 2 cases for books, \$20 each.....	40 00	
	Making carpets.....	18 00	
S. Fisher.....	Repairing blinds, &c.....	8 00	
	100 yards Brussels carpet, \$2 30 per yard.....	230 00	
	5 mats, \$10; 6 spittoons, \$3 60; basket, \$1 50.....	15 10	
G. S. Benedict.....	8 lbs. paraffine candles, at 60 cents.....	4 80	
	Daily Herald from November 10, 1865, to November 10, 1866	10 00	
John Q. Willson.....	1 walnut oil-desk, \$50; 1 oak chair, \$14.....	64 00	
	1 high chair, \$6; 1 library table, \$22	28 00	687 40
Johnson, Fry & Co	1 copy Lives of the Presidents	10 00	
Joseph Gawler	Making 2 walnut cases, \$30.....	60 00	
	Repairing furniture, &c.....	35 75	
American Telegraph Co....	Telegram to New York	1 47	
J. C. McGuire & Co	1 walnut desk.....	45 00	
J. Disturnell.....	4 copies United States Register, at 75 cents.....	3 00	
H. Blau.....	Making and laying carpet	4 45	
Boyd & Waite Bros.....	5 copies Washington Directory, at \$2 50	12 50	
C. Bohn.....	6 Department Directories.....	7 50	
Philp & Solomons	1 Lippincott's Gazetteer	10 00	

Statement of the contingent expenses, &c.—Continued.

To whom paid.	For what object.	Amount.	Total.
C. Ourand.....	Washing towels, 1st quarter, 1866.....	\$14 00	\$269 65
Joseph Gawler.....	Making walnut writing table.....	35 00	
	Repairing furniture.....	12 50	
S. J. Bowen, postmaster.....	Postage on foreign letters, &c.....	7 48	
W. W. Farr.....	1 eight-day mantel clock.....	8 00	
J. L. Dorwart.....	3 months' subscription to Daily Chronicle.....	3 00	
W. H. & O. H. Morrison.....	1 copy Brightley's Digest.....	6 50	
James C. McGuire & Co.....	1 oak desk.....	23 25	
Joseph Gawler.....	Repairing furniture.....	22 00	
P. White & Co.....	18 lbs. candles, \$12 60; candlesticks, \$1 25.....	13 85	
	Sponge, \$2; tacks, 88 cents; basin, \$1 38.....	4 26	210 45
	Gum-arabic, \$2 50; whisks, \$5.....	7 50	
James C. McGuire & Co.....	1 office desk, \$45; chairs, \$6 50.....	51 50	
H. Blau.....	Making and laying carpets.....	11 14	
Charles Jung.....	1 chart of the world.....	8 50	
J. W. Boteler & Bro.....	1 water cooler.....	18 50	
J. L. Dorwart.....	3 months' subscription to Daily Chronicle.....	3 00	
C. Ourand.....	Washing towels, 2d quarter, 1866.....	14 00	
L. J. Middleton.....	Ice from January 1 to June 30, 1866.....	20 25	
S. J. Bowen, postmaster.....	Postage on foreign letters.....	3 70	
James B. Dodson.....	1 Adelaide mat.....	2 50	
			1,307 58

TREASURY DEPARTMENT, *Comptroller's Office, September 5, 1866.*

TREASURY DEPARTMENT,
Second Comptroller's Office, December 13, 1866.

SIR: In compliance with the provisions of the 20th section of the act approved August 26, 1842, (5 Statutes, 527,) I transmit herewith a statement showing in detail the expenditure of the contingent fund of this office for the fiscal year ending June 30, 1866, and an exhibit of the state of the appropriation to that date.

Very respectfully, your obedient servant,

J. M. BRODHEAD, *Comptroller.*

Hon. HUGH McCULLOCH,

Secretary of the Treasury.

General statement of the condition of the fund appropriated for the contingent fund of the office of the Second Comptroller of the Treasury, prepared in obedience to the provisions of the 20th section of the act of Congress of August 26, 1842.

State of the appropriation.	Amount.	Total.
Amount in the treasury June 30, 1865.....		\$4,000 00
Amount appropriated for fiscal year ending June 30, 1866.....		
Between July 1, 1865, and June 30, 1866, there was expended for the necessary objects required for the despatch of the public business, as will appear by the analytical statement subjoined, the sum of.....	\$2,799 58	4,000 00
Amount in treasury June 30, 1866.....	746 66	
Amount in hands of agent June 30, 1866.....	200 42	
Amount due late agent June 30, 1865, and paid him during the fiscal year ending June 30, 1866.....	253 34	

Analytical statement of the contingent expenses of the office of the Second Comptroller of the Treasury from July 1, 1865, to June 30, 1866.

To whom paid.	For what purpose.	Amount.	Total.
J. V. Coburn	3 buckets, \$1 25; $\frac{1}{2}$ dozen whisks, \$3 60; 6 dozen soap, \$6 60.....	\$11 45	
	$\frac{1}{2}$ dozen brooms, \$3; 2 brass-bound buckets, \$3; 6 spittoons, \$3 60	9 60	
			\$21 05
C. W. Boteler & Son	1 hair-brush, \$3 50; 1 white granite ewer, \$1 75; 6 spittoons, \$4 50.....	9 75	
	2 basins and ewers, \$5 50; 2 soap slabs, 62 cents; 6 hair dusters, \$6.....	12 12	
	26 clothes racks and hooks.....	30 00	
			51 87
Blanchard & Mohun.....	6 army pay tables, \$7 50; 1 dozen pass-books, \$5.....	12 50	
	7 Webb's Pay Tables, \$21; 19 Webb's Digest, \$38.....	59 00	
			71 50
George Willner	Papering room No. 78 with gilt paper.....		7 00
C. W. Boteler & Son.....	1 duster, \$6 50; 1 white granite basin, \$1 50; $\frac{1}{2}$ dozen tumblers, \$2.....	10 00	
	2 pitchers, \$3; 1 basin and ewer, \$3; $\frac{1}{2}$ doz. tumblers, \$2.....	8 00	
	1 basin and ewer, \$2 50; 1 soap dish, 65 cents; 1 basin and pitcher, \$2 75.....	5 90	
	1 soap dish, 50 cents; 1 rack, 90 cents; 1 looking-glass, \$2 50; 1 duster, \$4.....	7 90	
	1 looking-glass, \$1 75; $\frac{1}{2}$ dozen spittoons, \$4 50; 1 water cooler, \$11 50.....	17 75	
	1 basin and ewer, \$3; 4 racks, \$3; 1 soap box, \$1 50.....	7 50	
	3 feather dusters.....	13 50	
			70 55
E. F. Lutz.....	Portrait of A. Lincoln.....	16 00	
	Portrait of General U. S. Grant.....	16 00	
			32 00
H. Blau	Repairing office furniture		14 00
W. S. Mitchell & Co.....	$1\frac{1}{2}$ yard 6-4 backing, \$4 50; 1 table cover, \$10.....	14 50	
	34 yards oil cloth, \$85; 3 dozen bordered towels, \$25 50.....	110 50	
	3 pieces wide tape, 60 cents; 2 spools cotton, 30 cents.....	90	
	1 wool bordered mat, \$3; $100\frac{1}{2}$ yards cocoa matting, at \$1 62 $\frac{1}{2}$, \$163 31.....	166 31	
			292 21
Wm. Chambers	Washing towels 2d quarter 1865.....		10 00
Harper & Mitchell.....	5 pieces black crape, at \$6 50.....		32 50
Edward Lycett.....	Binding and interleaving 1 Internal Revenue book.....		2 50
Philp & Solomons.....	6 army pay tables, at \$2.....	12 00	
	1 Lippincott's Gazetteer.....	10 00	
			22 00
Wm. Chambers	Washing towels 3d quarter 1865.....		10 00
John Q. Willson.....	1 No. 7 mahogany washstand.....	16 00	
	1 No. 7 walnut washstand.....	16 00	
	1 revolving high chair, \$6; 1 revolving armchair, \$10.....	16 00	
	3 office chairs, \$8; 1 gilt-frame glass, \$1 25.....	9 25	
	3 oak revolving chairs.....	30 00	
			87 25
S. D. Leib	1 copy McPherson's History of the Rebellion.....		5 00
J. V. Coburn.....	4 brooms, \$2 25; 1 bottle oil, \$1; 2 dozen soap, \$2 50.....	5 75	
	2 buckets, \$1 50; 1 broom, 62 $\frac{1}{2}$ cents; 4 dozen soap, \$4; 1 broom, 75 cents.....	6 87	
	2 brooms, \$1 25; 1 dusting brush, 50 cents; 1 bucket, 75 cents.....	2 50	
	1 scrub brush, 50 cents; 1 bottle oil, \$1; 4 dozen soap, \$3 50; 2 brooms, \$1 25.....	6 25	
	2 buckets, \$1; $\frac{1}{2}$ gr. matches, 37 $\frac{1}{2}$ cts.; 1 bucket, 37 $\frac{1}{2}$ cts.....	1 75	
	$\frac{1}{2}$ doz. spittoons, \$4 50; 2 brooms, \$1 50; 7 buckets, \$2 75.....	8 75	
			31 87
Sibley & Guy.....	Varnishing 8 fireplaces and fireboard	4 50	
	1 water sprinkler, \$5; 2 rat traps, \$3.....	8 00	
	2 ice picks, 80 cents; 1 porcelain cooler, \$15; 1 ice hatchet, \$1.....	16 80	
			29 30
E. F. Lutz.....	Portrait of General Sherman		16 00
H. Blau.....	Making and laying 142 yards matting.....	35 24	
	Making and laying 285 $\frac{1}{2}$ yards carpet	56 34	
	Repairing office furniture, \$4 75; 2 shades, \$10.....	14 75	
			106 33
L. J. Middleton & Co.....	1 bushel ice daily for 26 days, from October 1 to 31, at 40 cents.....	10 40	
	3 pecks ice daily for 94 days, from April 13 to July 31, at 10 cents.....	28 20	
	4 pecks ice daily for 53 days, from August 1 to September 30, at 10 cents.....	21 20	
			59 80

Analytical statement of the contingent expenses, &c.—Continued.

To whom paid.	For what purpose.	Amount.	Total.
H. Hoffa	1 marine lever clock, \$5 50; 1 8-day clock, \$12.....		\$17 50
T. J. D. Fuller	Carpet and rug	\$61 00	
	Marble-top washstand	14 00	
			75 00
Henry Kaiser	Repairing office furniture		28 00
Wm. Chambers	Washing towels 4th quarter 1865	10 00	
	Making 2 dozen new towels, at \$1 50	3 00	
			13 00
W. B. Moses	1 walnut swivel chair		13 00
C. W. Boteler & Son	$\frac{1}{2}$ dozen tumblers		2 50
C. Smith	1 copy Lincoln's Life		4 50
W. S. Mitchell	142 yards cocoa matting, \$213; 1 cocoa mat, \$3.....	216 00	
	285 $\frac{1}{2}$ yards carpeting, at \$2 25	641 81	
	21 yards huck towelling, at 75 cents	15 75	
	4 pieces tape, 60 cents; 2 spools cotton, 25 cents	85	
			874 41
Barnes & Son	2 canvas bags, at \$6		12 00
J. D. Duncan	1 Mitchell map		10 00
J. Disturnell	4 United States Registers for 1866	3 00	
	4 Post Office Directories	6 00	
			9 00
W. H. Braund, agent.....	7 volumes Chambers's Encyclopædia, at \$5 50.....	38 50	
	Volume 8 Rebellion Record	6 50	
			45 00
S. Williams	Repairing and varnishing, &c	15 00	
	1 bookcase	30 00	
			45 00
L. O. Straw, agent	1 copy each Campaigns of Grant and Sherman		11 00
C. Bohn	$\frac{1}{2}$ dozen Department and Congressional Directories		7 50
Johnson, Fry & Co.	1 copy of the Life of the Presidents		10 00
Wm. Chambers	Washing towels 1st quarter 1866		10 00
H. Blau	Making and laying 375 yards carpet, at 18 cents	67 50	
	Laying 22 yards carpet, \$1 98; sewing thread, \$6.....	7 98	
			75 48
Henry Kaiser	Repairing office furniture	53 00	
	1 bookcase	97 50	
			150 50
L. H. Schneider	2 sets casters, at 70 cents		1 40
John Q. Willson	12 cushions, \$15; 6 oak office chairs, \$18	33 00	
	1 continental revolving chair	12 00	
			45 00
J. Wallen	1 office chair		7 00
John Ogden	1 step ladder, \$3 25; 1 step ladder, \$4		7 25
J. V. Coburn	3 buckets, \$1 50; 4 brooms, \$2 50; $\frac{1}{4}$ doz. spittoons, \$6 75.....	10 75	
	4 dozen soap, \$4; 1 $\frac{1}{2}$ dozen soap, \$2 25; 3 brooms, \$2 12 $\frac{1}{2}$	8 37 $\frac{1}{2}$	
	1 bottle oil, 50 cents; 5 brooms, \$2 80; 2 buckets, \$3 50.....	6 80	
	4 yards cotton	1 25	
			27 17
Wm. Lindner	Varnishing and polishing office furniture		30 00
John Q. Willson	9 oak office chairs, \$22 50; 1 oak high chair, \$6		28 50
Mrs. F. Hawkins	3 brooms, \$1 80; 1 scrub brush, 50 cents	2 30	
	1 dozen boxes matches, 72 cents; 1 bottle sweet oil, \$1.....	1 72	
			4 02
H. Blau	Making and laying 98 yards carpet, &c		21 12
C. W. Boteler	1 ward. standing desk		25 00
J. W. Boteler & Son	1 $\frac{1}{2}$ dozen tumblers, \$6; 4 cushions, \$6; 1 mahogany-frame glass, \$3	15 00	
	4 marble-top washstands, at \$20 each	80 00	
	1 quart pitcher, 75 cents; 1 basin, ewer and soap dish, \$3 25.....	4 00	
	6 dust brushes, \$6; 2 paper baskets, \$2; 1 basin, \$1 50	9 50	
	1 large pitcher, \$1 50; 3 leather-covered cushions, \$13 50.....	15 00	
	1 gilt-frame glass, \$6; 6 bristle brushes, \$4 50	10 50	
	1 rack and hooks, \$1; 4 soap slabs, \$1	2 00	
			136 00
C. Schneider	Hanging a bell		10 00
Webb & Beveridge	2 looking-glasses, \$11; 2 covered water buckets, \$5.....	16 00	
	2 water coolers, \$9; 1 porcelain water cooler, \$13 50.....	22 50	
			38 50
Wm. Chambers	Making 3 dozen towels, at \$1 50	4 50	
	Washing towels 2d quarter 1866	12 00	
			16 50
Littlefield & Clagett	1 photographic picture frame, death-bed of Lincoln.....		8 00
David S. Green	10 Green's Army Pay Tables, at 80 cents		8 00
	Total		2,799 58

RECAPITULATION.

Disbursed in 3d quarter 1865	\$619 63	Stationery	\$86 00
Disbursed in 4th quarter 1865	469 80	Office furniture	2, 125 20
Disbursed in 1st quarter 1866	1, 050 91	Books for library	85 50
Disbursed in 2d quarter 1866	659 24	Miscellaneous	512 88
Total	2, 799 58		2, 799 58

General statement of the condition of the fund appropriated for the contingent expenses of the office of the First Auditor of the Treasury; prepared in obedience to the provisions of the twentieth section of the act of Congress passed August 26, 1842.

State of appropriation.	Amount.	Total.
Amount of appropriation undrawn June 30, 1865	\$634 80	
And there was appropriated by act of March 3, 1866	1, 500 00	\$2, 134 80
Amount of appropriation undrawn July 1, 1866	1, 015 44	
Unexpended in the hands of the disbursing clerk July 1, 1866	89 01	
Amount paid John J. Knox, late disbursing clerk, for balance due him	19 36	
Expenditures from July 1, 1865, to June 30, 1866, as per detailed statement herewith	1, 010 99	2, 134 80

T. L. SMITH, Auditor.

TREASURY DEPARTMENT,
First Auditor's Office, October, 1866.

Analytical statement of the contingent expenses of the office of the First Auditor of the Treasury from July 1, 1865, to June 30, 1866.

To whom paid.	For what object.	Amount.	Total.
Philp & Solomons	Lippincott's Gazetteer	\$10 00	
	Congressional Directory	2 00	
			\$12 00
W. H. & O. H. Morrison	Brightley's Digest, 3 vols.	19 50	
	United States Statutes, vol. 13, 3 vols	18 00	
	McPherson's History of the Rebellion	5 00	
	Appleton's Railroad Guide	90	
	Tribune Almanacs	1 20	
	Paper fasteners	1 60	
			46 20
George Blau	Putting down carpets and matting		23 50
James W. Garner	Keeping stationery	100 00	
	Sundry articles for office	57 13	
			157 13
James W. Fales	Washing and making towels		115 26
Daily Chronicle	Subscription		15 90
National Intelligencer	do		20 00
New York Times	do		12 00
J. H. Wentworth	Richardson's Book		3 00
James Sheeky	Rebellion Record, 1 vol.		6 50
J. D. Duncan	Mitchell's Atlas		10 00
Johnson, Fry & Co.	Lives of the Presidents		10 00
Boyd, Waite & Bros.	Washington Directory		7 50
C. Bohn	Department and Congressional Directory		7 50
J. Disturnell	Post Office Directory and Register		4 50
James B. Fordham	Engraving and frame, 1 group		6 00
Littlefield & Claggett	Death Scene of President Lincoln		3 00
D. H. Brewer	Likeness of President Johnson		3 50
Henry Kaiser	Office furniture and repairing		268 25
W. H. Stephens	Penknife strap		1 00
L. H. Schneider	Cancelling hammer		50 75
G. M. Wight	2 office chairs		15 00
A. W. Townsend & Co.	Office clock		6 00
Andrew Goddard	Towelling, cotton, &c.		48 76
L. J. Middleton	Ice		66 75
John Ogden	Feather duster		1 85

Analytical statement, &c.—Continued.

To whom paid.	For what object.	Amount.	Total.
Green & Williams	Chairs, washstands, &c.		\$25 50
Adams Express Co.			3 00
Bentley & Newton	Gum-arabic, sponge, soap, &c.		21 45
B. C. Major	do do		27 45
Charles Richardson	Labor		11 74
			1,010 99

SECOND AUDITOR'S OFFICE,
Treasury Department, December 12, 1866.

SIR: I have the honor to transmit, herewith, a statement showing the condition of, and the disbursements from, the contingent fund appropriated for this office, for the fiscal year ending June 30, 1866, prepared in compliance with the twentieth section of the act of Congress of August 26, 1842.

Very respectfully, your obedient servant,

E. B. FRENCH, *Auditor.*

The SECRETARY OF THE TREASURY.

Statement showing the expenditure of the contingent fund for the Second Auditor's office for the fiscal year ending June 30, 1866, prepared in compliance with act of Congress of August 26, 1842.

Date.	To whom paid.	For what object.	Amount.
1865.			
July 1	City post office	Foreign postage	\$17 53
5	Sears & Bro.	Ravens duck	28 31
5	S. W. Allen	Stencil plates	18 62
7	J. L. Dorwart	Daily Chronicle	3 90
10	John W. Lewis	Carpenters' work	2,869 66
21	S. Redfern	Sundries	61 71
26	Snow, Coyle & Co.	National Intelligencer	10 00
29	Fred. Sheridan	Transportation of mail	9 00
Aug. 2	Washington Gas Company ..	Gas for July	3 51
15	E. F. Lutz	Portrait of A. Lincoln	32 00
22	A. Vogeler & Co.	Soap	36 88
28	John Brent	Labor	25 00
30	F. Sheridan	Transportation of mail	9 00
Sept. 2	Washington Gas Company ..	Gas for August	3 90
15	G. M. Wight	Matting, desks, &c	897 76
16	S. D. Leib	McPherson's History of the Rebellion	5 00
22	J. S. Topham & Co.	Document straps	108 68
30	Elizabeth Brent	Washing towels	18 00
Oct. 2	Washington Gas Company ..	Gas for September	7 41
2	F. Sheridan	Transportation of mails	8 21
3	City post office	Foreign postage	22 35
4	J. L. Dorwart	Daily Chronicle	3 00
10	Charles Deane	Twine	147 37
13	L. P. Blair	Repairing gas fixtures	1 25
21	J. S. Topham & Co.	Document straps	35 00
25	W. Robinson and others ..	Services as laborers	6 00
27	Thomas Burley	Whitewashing	16 00
30	Charles A. Love	Services	9 00
30	F. Sheridan	Transportation of mail	8 00
30	W. H. Harrover	Stoves, &c.	296 33
30	G. M. Wight	Desks, tables, matting, &c.	1,801 95
Nov. 1	Charles Tiffin	Services as laborer	7 50
2	Washington Gas Company ..	Gas for October	10 53
9	Browne & Powers	Gas pipe and fitting	31 52
10	John Patterson	Whitewashing	12 00
17	J. S. Topham & Co.	Document straps	178 67
20	Charles A. Love	Services as messenger	45 09
27	G. L. Sheriff	Coal	272 28
30	John W. Lewis	Carpenter work	3,880 32
30	Fred. Sheridan	Transportation of mail	8 00
Dec. 2	P. M. Smith	Services as laborer	59 50
2	Washington Gas Company ..	Gas for November	23 81
2	W. H. & O. H. Morrison ..	Brightley's Digest	6 50

Statement, &c.—Continued.

Date.	To whom paid.	For what object.	Amount.
1865.			
Dec. 5	J. B. Richards	Standing desk	\$40 00
18	Peter M. Smith	Services as laborer	30 72
18	Thomas Arnold	Services as messenger	33 00
21	E. F. Lutz	Portrait of General Sherman	16 00
22	J. S. Topham & Co.	Document straps	78 50
26	G. M. Wight	Furniture, &c.	1, 157 42
30	Elizabeth Brent	Washing towels	18 00
29	Fred. Sheridan	Transportation of mail	8 00
29	C. A. Demieux	Services as messenger	68 48
29	Thomas Arnold	do.	36 00
29	P. M. Smith	Services as laborer	28 80
1866.			
Jan. 2	Samuel Redfern	Spittoons, brooms, &c.	66 88
3	Washington Gas Company ..	Gas for December	30 81
6	City post office	Foreign postage	14 63
9	J. S. Dorwart	Daily Chronicle	3 00
10	Fowler & Moon	American Review	9 00
19	William Noell	Repairing blinds, &c.	22 75
23	Walter Godey	Ice	264 87
25	C. Bohn	Congressional Directory	3 75
26	Telegraph Company	Despatch	2 21
29	Thomas Arnold	Services as messenger	70 00
29	Charles A. Demieux	do.	70 00
29	Peter M. Smith	Services as laborer	60 00
29	Fred. Sheridan	Transportation of mail	8 00
30	J. S. Topham & Co.	Document straps	160 00
Feb. 1	Washington Gas Company ..	Gas for January	29 64
8	Boyd & Waite Bros.	Washington Directory	7 50
10	Philp & Solomons	Hamilton's Clothing Tables ..	320 00
23	G. M. Wight	Desks, chairs, matting, &c.	874 34
27	F. Sheridan	Transportation of mail	8 00
27	P. M. Smith	Services as laborer	60 00
27	Charles A. Demieux	Services as messenger	70 00
27	Thomas Arnold	do.	70 00
27	W. G. Bitner	Repairing keys, &c.	6 50
Mar. 5	G. L. Andrews	Desk	25 00
3	Washington Gas Company ..	Gas for February	24 57
12	E. M. Davis	Stencil brushes	4 50
15	J. Disturnell	Post Office Directory	5 50
27	Philp & Solomons	Lippincott's Gazetteer	20 00
28	F. Sheridan	Transportation of mail	8 00
28	P. M. Smith	Services as laborer	60 00
28	C. A. Demieux	Services as messenger	70 00
28	Thomas Arnold	do.	70 00
30	Elizabeth Brent	Washing towels	18 00
Apr. 3	Washington Gas Company ..	Gas for March	27 69
4	City post office	Foreign postage	13 13
5	J. L. Dorwart	Daily Chronicle	3 00
16	John Markriter	Shades	75 00
20	John W. Lewis	Carpenter work	4, 639 31
27	W. A. Patterson	Whitewashing	3 00
28	Fred. Sheridan	Transportation of mail	8 00
28	P. M. Smith	Services as laborer	60 00
28	C. A. Demieux	Services as messenger	70 00
28	Thomas Arnold	do.	70 00
May 1	Washington Gas Company ..	Gas for April	17 55
4	G. M. Wight	Desks, chairs, &c.	464 11
4	W. H. Harrover	Stove-pipe, &c.	12 50
7	Kneesi & Norflet	Mail bags	11 50
14	J. S. Topham & Co.	Document straps	72 50
28	Fred. Sheridan	Transportation of mail	8 00
28	Thomas Arnold	Services as messenger	70 00
28	Charles A. Demieux	do.	70 00
28	P. M. Smith	Services as laborer	60 00
June 2	Washington Gas Company ..	Gas for May	17 55
8	W. J. Murtagh & Co.	National Republican	17 75
16	John W. Patterson	Whitewashing	15 00
18	George J. Johnson	Ravens duck	22 55
27	Littlefield, Claggett & Co.	"Death Bed of Lincoln"	8 00
30	Fred. Sheridan	Transportation of mail	8 00
30	G. M. Wight	Desks, matting, &c.	989 41
30	Elizabeth Brent	Washing towels	18 00
30	J. L. Dorwart	Daily Chronicle	3 00
30	S. Nugeon	Whitewashing	3 00
30	Charles Lederer	Wheelbarrow	12 00
30	City post office	Foreign postage	17 33
			21, 999 12

State of appropriation.

Balance unexpended at close of fiscal year ending June 30, 1865		\$521 80
Amount received from appropriation, act March 2, 1865, for "temporary accommodations for the State Department and clerks of the treasury"		4,837 53
Appropriation for fiscal year ending June 30, 1866		25,000 00
Total available funds		30,359 33
Amount expended in the year ending June 30, 1866, as per foregoing statement	\$21,999 12	
Amount in hands of disbursing clerk unexpended June 30, 1866	1,522 68	
		23,521 80
Balance remaining in treasury July 1, 1866		6,837 53

TREASURY DEPARTMENT, THIRD AUDITOR'S OFFICE,

December 7, 1866.

SIR: I have the honor to transmit herewith a statement showing the manner in which the contingent fund of this office was disbursed for the official year ending June 30, 1866.

I am, sir, your obedient servant,

JOHN WILSON,
Third Auditor.

Hon. H. McCULLOCH,
Secretary of the Treasury.

General statement of the condition of the fund appropriated for contingent expenses in the office of the Third Auditor of the Treasury, as required by the 20th section of the act of Congress of August 26, 1842.

Balance in treasury July 1, 1865	\$6,718 47
Appropriation for fiscal year ending June 30, 1866	15,000 00
Amount due Thomas J. Hobbs, disbursing clerk, June 30, 1866	293 16
	22,011 63
Amount due John J. Knox, disbursing clerk, June 30, 1865	\$93 91
Expended from July 1, 1865, to June 30, 1866, per statement appended	10,293 16
	10,387 07
Balance in treasury June 30, 1866	11,624 56

Analytical statement of the contingent expenses of the office of the Third Auditor of the Treasury Department, from July 1, 1865, to June 30, 1866, inclusive.

To whom paid.	For what object.	Amount.	Total.
S. Goddard	6 dusters, at 75 cents	\$4 50	
	6 wisps, at 50 cents	3 00	
	10 pounds almond soap, at 50 cents	5 00	
	2 dozen sponge cups, \$1 25 per dozen	2 50	
	6 tumblers, at 25 cents	1 50	
	6 spittoons, at 75 cents	4 50	
	6 buckets, at 50 cents	3 00	
	6 brooms, at 70 cents	4 20	
	10 pounds almond soap, at 50 cents	5 00	
	1 dozen spittoons, at 75 cents	9 00	
			\$42 20
Samuel Waters	Hauling mail from post office, 13 loads, at \$1 per load		13 00
Samuel Paine	Hauling 1 load of accounts from Treasury Department to Quartermaster General's office		2 00
James A. Polkaty and C. H. W. Stokely	Shaking 2 carpets		4 00
C. W. Boteler & Son	1 Britannia ice pitcher	9 50	
	1 Britannia ice pitcher	9 50	
			19 00

Analytical statement of contingent expenses, &c.—Continued.

To whom paid.	For what object.	Amount.	Total.
Sibley & Guy.....	1 water cooler.....	\$12 00	
	4 coal hods, at \$2.....	8 00	
	Repairing water cooler.....	3 00	
	1 water cooler.....	10 50	
	Repairing water cooler.....	50	
	New bottom in sprinkler.....	1 00	
	1 6-gallon porcelain cooler.....	15 25	
	1 dust-pan.....	50	
	1 6-gallon water sprinkler.....	5 00	
	1 6-gallon porcelain cooler.....	15 25	
			\$71 00
A. M. Gangewer.....	1 water cooler.....	5 00	
	2 pounds candles, at 45 cents.....	90	
			5 90
James B. Dodson.....	3 manilla mats, at \$1 25.....		3 75
W. B. Moses.....	3 washstands.....		15 00
Snow, Coyle & Co.....	National Intelligencer, 1 year.....		10 00
J. W. Drane.....	1 walnut desk and case.....	125 00	
	1 pine case with drawers, &c.....	38 00	
	10 pine double tables, covered, at \$23.....	230 00	
	20 pine single tables, covered, at \$18.....	360 00	
	1 walnut case.....	85 00	
	30 tables stained and varnished, at \$2.....	60 00	
	Cutting doorway through case.....	3 50	
	3 dozen brass hooks put in cases, at 50 cents.....	1 50	
			903 00
Washington post office.....	Postage on Adjutant General's Reports, State of Michigan.....	37 13	96
Walter B. Shaw.....	Services as assistant messenger from 12th to 31st July, (inclusive,) 1865.....		45 65
Samuel Waters.....	Hauling mail from post office, 13 loads, at \$1 per load.....		13 00
H. Blau.....	Taking up two carpets.....	2 00	
	Sewing and laying 168½ yards of matting, at 22 cents.....	37 13	
	Making and laying 152 yards carpet, at 18 cents.....	27 36	
	Sewing twine.....	3 23	
	Thread.....	3 00	
	Stretching and tacking five rooms matting, at \$1 50.....	7 50	
			80 24
William S. Mitchell & Co....	24 yards huck towelling, at 55 cents.....	13 20	
	12 pieces tape, at 15 cents.....	1 80	
	6 spools cotton, at 12½ cents.....	75	
	72½ yards Brussels, at \$3.....	216 75	
	168½ yards fine cocoa matting, at \$1 45.....	244 69	
			477 19
Patton Mahon.....	Freightage of accounts to the office of the Quartermaster General, (2 loads).....		3 00
Henry Gant.....	1 load of mail.....		1 00
Walter B. Shaw.....	Services as assistant messenger from August 1 to 31, (inclusive,) 1865.....		70 76
Charles Kinney.....	1 load of accounts to Commissary General's office.....		2 00
Samuel Waters.....	Carrying mail fourteen (14) times in August, at \$1 per load.....		14 00
Eliza Dillen and others.....	Cleaning rooms.....		32 44
J. W. Drane.....	1 heavy pine table, stained and varnished.....	18 00	
	724 6-12 feet shelving, at 10 cents.....	72 45	
	376 grooves cut in shelves, at 6 cents.....	22 56	
	20 miters on shelves, at 10 cents.....	2 00	
	Materials, 905 feet seconds, at 6 cents.....	54 30	
	15 pounds nails, at 7 cents.....	1 05	
	Hauling one load.....	1 00	
	1 shelf put up.....	1 00	
	39 3-12 feet of case back, at 15 cents.....	5 88	
	26 10-12 feet of case frame, 12½ wide, at 12 cents.....	3 22	
	9 feet bevelled base, at 12 cents.....	1 08	
	9 8-12 feet of cornice, at 30 cents.....	2 90	
	2 miters in cornice, at 30 cents.....	60	
	48 feet of bead on edge of shelves, at 10 cents.....	4 80	
	83 4-12 feet of shelves, at 12 cents.....	10 00	
	135 grooves cut in shelves, at 6 cents.....	8 10	
	231 feet of assorted lumber, used, at 8 cents.....	18 48	
	Hardware.....	50	
			227 72
Sarah Goddard.....	1 dozen spittoons.....	12 00	
	2 dozen sponge cups, at \$1 50.....	3 00	
	10 pounds almond soap, at 50 cents.....	5 00	
	10 pounds almond soap, at 50 cents.....	5 00	
	½ dozen spittoons, at \$12 per dozen.....	6 00	
	2 dozen sponge cups, at \$1 50.....	3 00	
	10 pounds almond soap, at 50 cents.....	5 00	
	½ dozen 3-hoop buckets, at 75 cents.....	4 50	
	3 stone pitchers, at 62½ cents.....	1 87½	
			45 37

Analytical statement of contingent expenses, &c.—Continued.

To whom paid.	For what object.	Amount.	Total.
Adams Express Company...	Freight on 1 box from St. Louis, Missouri		\$8 00
Samuel Waters	Carrying mail thirteen (13) times in the month of September, 1865, at \$1 per load		13 00
G. M. Wight	1 revolving chair		15 00
Thomas Foster	Washing towels for the quarter ending the 30th September, 1865	\$25 00	
	Making four (4) dozen towels, at 6½ cents	3 00	
			28 00
H. Blau	Making and laying 98½ yards matting, at 22 cents	21 67	
	Sewing twine	2 00	
	Taking up and relaying carpet	4 00	
	Laying carpet and matting in a small room	3 00	
			30 67
Richard Vigle	Cartage of 1 load to Quartermaster General's office		2 00
Walter B. Shaw	Services from September 1 to September 30, 1865		68 48
S. D. Leib	Copy of McPherson's History of Rebellion		5 00
W. B. Moses	4 single enclosed washstands, at \$5		20 00
Samuel Waters	Carrying mail thirteen (13) times, at \$1		13 00
Richard Vigle	Cartage of 1 load of accounts to the office of the Quartermaster General		2 00
Walter B. Shaw	Services as assistant messenger from Oct. 1 to 31, (inclusive)		70 76
Patrick Donnelly and C. H. W. Stokely	Services as laborers from December 10, 1864, to January 14, 1865		76 30
William S. Mitchell	24 yards huck towelling, at 62½ cents	15 00	
	1 dozen pieces of tape	1 25	
	5 spools cotton, at 12½ cents	63	
	98 yards fine cocoa matting, at \$1 50	147 00	
			163 88
L. J. Middleton & Co.	2½ pecks ice daily from January 1 to May 17, at 10 cents per peck, 117 days	29 25	
	5 pecks from May 18 to July 10, 46 days	23 00	
	7½ pecks from July 11 to July 28, 16 days	12 00	
	8½ pecks from July 29 to August 3, 5 days	4 25	
	9½ pecks from August 4 to August 28, 21 days	19 95	
	9 pecks from August 29 to September 30, 29 days	26 10	
			114 55
William S. Mitchell	Brussels carpeting, at \$4 per yard		368 49
J. W. Drane	18 tables in attic file-room, at \$10	180 00	
	570 file-boards, large size, at 10 cents	57 00	
	2,160 file-boards, small size, at 6 cents	129 60	
	3 step-ladders, at \$8	24 00	
	1 step-ladder, \$5	5 00	
	Staining, varnishing, and lettering	12 00	
			407 60
W. B. Shaw	Services as messenger for the month of November, 1865		68 48
Samuel Waters	Carrying mail thirteen (13) times in November, 1865		13 00
W. H. & O. H. Morrison	3 sets of Brightley's Digest, 2 volumes each, at \$14 50		43 50
Charles F. Frost	Cartage of one load of accounts to the office of the Quartermaster General		2 00
U. S. Telegraph Company	Telegram		5 55
James W. Drane	447 5-12 feet (superficial) of 6-4 partition, at 12 cents	53 69	
	112 feet (lineal) of cornice, at 50 cents	56 00	
	5 miters in cornice, at 50 cents	2 50	
	122 feet (superficial) of cover to cornice, at 6 cents	7 32	
	744 feet of shelving, at 10 cents	74 40	
	40 3-12 feet (lineal) of grooved and bevelled 6-4 strips, at 15 cents	6 03½	
	826 10-12 feet (lineal) reed moulding on edge of shelves, at 8 cents	66 14½	
	222 grooves cut, at 10 cents	22 20	
	75 9-12 feet (superficial) of nosing, at 9 cents	6 81½	
	36 lights 12 by 18 sash, 8-4, with glass and glazing, at \$1 15	41 40	
	18 3-12 feet (lineal) 3-inch band moulding, at 6 cents	1 09½	
	83 4-12 feet sash frame, at 20 cents	16 66½	
	4 spring fastenings, furnished and put on, at 50 cents	2 00	
	4 sash locks, furnished and put on, at \$1	4 00	
	37 6-12 feet (superficial) 6-4 table top glued up, at 20 cts	7 50	
	30 10-12 feet (superficial) 4-4 ends and divisions, at 12 cts	3 70	
	90 feet (superficial) of shelving in divisions, at 12 cents	10 80	
	12 small brackets, at 25 cents	3 00	
	37 feet (superficial) tongued and grooved divisions, at 12 cents	4 44	
	10 feet (lineal) of cleats screwed on, at 25 cents	2 50	
	36 grooves cut, at 10 cents	3 60	
	Hardware furnished	5 00	
	456 feet lumber furnished for shelves, at 7 cents	31 92	
	260 feet 6-4 partition stuff, at 10 cents	26 00	
	1 table, painting, (3 coats,) staining and varnishing the same, &c.	45 00	

Analytical statement of contingent expenses, &c.—Continued.

To whom paid.	For what object.	Amount.	Total.
James W. Drane	2 large boxes, 32 inches by 24 by 21, top, hinges, &c., at \$5	\$10 00	
	2 small file-board boxes, at 75 cents	1 50	
	1 portable hat-rack	1 50	
	2 large step-ladders, stained, varnished, and labelled, at \$10	20 00	
	3 self-supporting step-ladders, stained, varnished, and labelled, at \$6	18 00	
	5 heavy pine tables with drawers, stained and varnished, at \$22	110 00	
	5 large pigeon-hole cases, stained and varnished, at \$30	150 00	
	13 small pigeon-hole cases, 2 rows high, per agreement, at \$10	130 00	
	25 small pigeon-hole cases, 1 row high, as per agreement, at \$9	225 00	
			\$1,169 73
Thomas Foster	Washing towels for the quarter ending December 1, 1866		25 00
Sarah Goddard	6 spittoons, at 85 cents	5 10	
	2 dozen sponge cups, \$2	4 00	
	15 pounds almond soap, at 50 cents	7 50	
	4 brooms, at 75 cents	3 00	
	10 pounds almond soap, at 50 cents	5 00	
			24 60
William Finley	One office desk		15 00
W. B. Moses	1 dozen office chairs		36 00
Samuel Waters	Carrying mail fourteen (14) times in the month of December, 1865, at \$1 per load		14 00
L. J. Middleton & Co	Ice		35 10
Samuel Paine	Cartage of one load of accounts		2 00
W. B. Moses	1 chair		11 00
W. B. Shaw	Services		70 76
Sibley & Guy	1 water carrier, at \$5; 1 duster, at \$4; 1 cooler, at \$9 50	18 50	
	1 dozen glass tumblers	4 00	
	1 ice pick, at 50 cents; 3 dust pans, at \$1 50	2 00	
	New bottom in sprinkler	50	
	2 hand scrubs, at 25 cents	50	
	1 feather duster	4 25	
	1 feather duster	3 50	
	2 gallon hods, at \$3 50; 1 hatchet, at \$1 25	4 75	
	1 box coal-oil candles	3 60	
	2 brass candlesticks	90	
	6 pounds sperm candles, at 75 cents	4 50	
			47 00
Samuel Waters	Services		12 00
W. H. Brand, agent	Volume 8 of Rebellion Record		6 50
Walter B. Shaw	Services as assistant messenger		65 43
Sibley & Guy	6 pounds sperm candles, at 75 cents	4 50	
	3 brass candlesticks	2 00	
	6 pounds sperm candles, at 75 cents	4 50	
	1 box coal-oil candles	3 60	
	2 pair china candlesticks, at \$1 75	3 50	
			18 10
J. W. Drane	20 small pigeon-hole cases, at \$10	200 00	
	1 large pigeon-hole case	23 00	
	Shelving put in 3 window recesses, at \$6	18 00	
	20 small pigeon-hole cases, at \$10	200 00	
	1 fine walnut case	75 00	
	20 small pigeon-hole cases, at \$10	200 00	
	Removing shelving and putting it up	4 00	
	Altering case and putting it up	5 00	
	2 keys fitted to locks	1 50	
	1 case with doors, drawers, stained, varnished, &c.	50 00	
	Covering 8 drawers	8 00	
	20 pigeon-hole cases, at \$10	200 00	
	1 case with doors, drawers, &c.	50 00	
	1 walnut rest for hand	1 00	
	534 large size cleated file-boards, at 20 cents	106 80	
	1,657 second size cleated file-boards, at 10 cents	165 70	
	2,205 third size cleated file-boards, at 6 cents	132 30	
	Cutting out partitions and altering tables	18 00	
	20 pigeon hole cases, at \$10	200 00	
	1 small step-ladder, stained and varnished	5 00	
			1,663 30
C. H. Lemos	Services from February 20 to 28, 1866, inclusive		18 00
C. E. Nordstom	One copy volume 1 of "The American Conflict"		7 50
W. B. Moses	12 armchairs, at \$3		36 00
A. G. Mills	Expressage		1 00
J. Disturnell	12 "Post Office Directories"	18 00	
	2 "United States Registers for 1866"	1 50	
			19 50
J. M. Hicks	Cartage one load of accounts		2 00

Analytical statement of contingent expenses, &c.—Continued.

To whom paid.	For what object.	Amount.	Total.
Samuel Paine.....	Cartage one load of quartermasters' accounts.....		\$2 00
Walter B. Shaw.....	Services as messenger (assistant).....		72 33
H. Blau.....	Six white linen window shades.....		30 00
C. Bohn.....	1 dozen Department and Congressional Directories.....		15 00
Samuel Waters.....	Services.....		13 00
Thomas Foster.....	Washing towels one quarter.....		25 00
W. B. Moses.....	1 dozen Douglas arm chairs.....		36 00
Holland & Cann.....	Furnishing, painting, and lettering 103 tins at 20 cents.....	\$20 60	
	Furnishing, painting, and lettering 26 tins at 8 cents.....	2 08	
			22 68
Timothy Sullivan.....	Services 11 days, at \$2 per day.....		22 00
Samuel Nyburg.....	1 Morton gold pen.....		4 50
James Goodman.....	Services 11 days, at \$2 per day.....		22 00
Daniel Mahony.....	Services 11 days, at \$2 per day.....		22 00
Maria Lee.....	Repairing chairs.....		2 80
L. H. Schneider.....	1 set casters.....		60
W. B. Moses.....	1 fine walnut reclining chair.....	50 00	
	3 fine walnut cane-seat chairs.....	30 00	
			80 00
Philp & Solomons.....	1 Lippincott's Gazetteer.....		10 00
George Francis.....	6 large rubber spittoons at \$3.....	18 00	
	2 coal hods at \$1 65.....	2 30	
	1 dozen tumblers.....	2 75	
	2 chamois leathers at 75 cents.....	1 50	
	6 office baskets at \$1 65.....	9 90	
	6 corn brooms at 65 cents.....	3 90	
	6 dusting brushes at 50 cents.....	3 00	
	6 wisp brooms at 45 cents.....	2 70	
	$\frac{1}{2}$ gross matches.....	1 50	
	4 dozen almond soap at \$1 25.....	5 00	
	6 pounds sperm candles at 60 cents.....	3 60	
	One 8-gallon water cooler.....	16 50	
	3 stone china wash bowls at \$1 50.....	4 50	
	3 stone pitchers at 75 cents.....	2 25	
	6 pounds patent sperm candles at 70 cents.....	4 20	
	6 mouse traps at 20 cents.....	1 20	
	$\frac{1}{4}$ pound cheese.....	13	
	2 dozen almond soap at \$1 25.....	2 50	
	6 desk locks at 62 $\frac{1}{2}$ cents.....	3 75	
	4 large brooms at 65 cents.....	2 60	
	6 small fine brushes at 20 cents.....	1 20	
	6 dozen soap at \$1 25.....	7 50	
	1 dozen spittoons.....	6 00	
	1 feather duster.....	3 85	
	6 pounds patent sperm candles at 70 cents.....	4 20	
	4-gallon water cooler.....	7 50	
	6 3-hoop painted pails at 37 $\frac{1}{2}$ cents.....	2 25	
	6 tumblers.....	1 40	
			125 68
Charles Lemos.....	Services as laborer one month.....		62 00
Walter B. Shaw.....	Services as messenger one month.....		72 33
Samuel Waters.....	Carrying mail 14 times in March, 1866.....		14 00
Adelia Demeister.....	Cleaning three rooms daily for one month.....		20 00
Samuel Paine.....	Cartage one load of accounts.....		2 00
J. W. Drane.....	1 division book-case.....	16 00	
	Mahogany desk table.....	160 00	
	5 pigeon-hole cases.....	50 00	
	Mahogany pigeon-holes.....	10 00	
	20 pigeon-hole-cases.....	200 00	
	1 fine walnut case.....	75 00	
	20 tables with two drawers, covered, stained.....	500 00	
	2 tables with one drawer, covered.....	44 00	
	2 large pigeon-hole cases.....	40 00	
	Divisions in closet shelving.....	3 00	
	1 fine walnut case for Fishback.....	75 00	
			1,173 00
James Goodman.....	3 days services as laborer at \$2 per day.....		6 00
Johnson, Fry & Co.....	1 copy "Lives of the Presidents".....		10 00
Walter B. Shaw.....	Services as assistant messenger.....		69 25
Samuel Waters.....	Services carrying mail 13 times, at \$1.....		13 00
Adelia Demeister.....	For cleaning rooms one month.....		20 00
H. Blau.....	Laying 47 yards carpet at 9 cents.....		4 23
Charles H. Lemos.....	Services as messenger one month.....		59 34
William Sauntry.....	2 days' services at \$2 per day.....		4 00
H. Blau.....	Upholstering, &c.....		119 45
Michael Sweeny.....	2 days' services at \$2 per day.....		4 00
Charles F. Frost.....	Cartage of one load of accounts.....		2 00
E. D. Chamberlain.....	3 stamps and ribbons.....		26 75
W. B. Moses.....	1 dozen Douglas arm chairs.....		36 00

Analytical statement of contingent expenses, &c.—Continued.

To whom paid.	For what object.	Amount.	Total.
Holland & Cann.....	5 large tins at 20 cents..... 156 small tins at 8 cents.....	\$1 00 12 48	\$13 48
J. W. Drane.....	Cases, &c.....		402 58
Adelia Demeister.....	Cleaning three rooms one month.....		20 00
Samuel Waters.....	Carrying mail 14 times at \$1.....		14 00
Walter B. Shaw.....	Services as assistant messenger from the 1st to the 17th of May, 1866 inclusive.....		39 22
H. Blau.....	Upholstering.....		68 85
Samuel Pane.....	Cartage.....		1 00
Thomas Mylor.....	6 days' work as laborer at \$2.....		12 00
Charles H. Lemos.....	Services as laborer from 1st to 17th May.....		33 62
William W. Farr.....	1 calendar clock.....		40 00
Richard Vegan.....	Cartage.....		1 00
Samuel Waters.....	Carrying mail 13 times in June.....		13 00
L. J. Middleton.....	Ice.....		110 43
George Francis.....	Oil stone..... ½ dozen wisp brooms at 45 cents..... ½ dozen earthen spittoons..... 4 large brooms at 65 cents..... 1 dozen almond soap..... 1 dozen tumblers..... Watering pot..... 2 dust pans at 45 cents..... 6 dozen soap at \$1 25..... 8 feather dusters at \$3..... Repairing old watering pot..... 1 dozen earthen spittoons..... Putting new faucet to water cooler..... 6 pounds patent sperm candles at 70 cents..... 1 dozen earthen spittoons..... ½ dozen mouse traps..... 3 gimlets, 25 cents; two papers covered head tacks, 50 cts..... 4-gallon water cooler..... 6-gallon water cooler..... 6 dozen soap at \$1 25..... 1 dozen tumblers..... 4 water buckets at 45 cents..... 10-gallon porcelain water cooler..... 6-gallon porcelain water cooler..... Watering pot..... 2 large stone buckets at \$1..... 7-gallon watering pot.....	3 00 2 70 3 00 2 60 1 25 2 75 1 85 90 7 50 24 00 25 6 00 1 00 4 20 6 00 1 50 75 7 50 10 50 7 50 2 75 1 80 22 00 17 00 85 2 00 3 50	144 65 20 00 25 00 142 70 10 00 17 75
Adelia Demeister.....	Cleaning three rooms one month.....		20 00
Thomas Foster.....	Washing towels one quarter.....		25 00
H. Blau.....	Upholstering.....		142 70
Littlefield & Clagett.....	Picture and frame, "Death-bed of Lincoln".....		10 00
National Republican.....	Subscription.....		17 75
			10,293 16

TREASURY DEPARTMENT,

Fourth Auditor's Office, December 15, 1866.

SIR: Herewith enclosed you will find a statement of contingent expenses of this office for the fiscal year ending June 30, 1866.

I have the honor to be, sir, very respectfully, your obedient servant,
S. J. W. TABOR, *Auditor.*

Hon. HUGH McCULLOCH,
Secretary of the Treasury.

*Analytical statement of contingent expenses of the Bureau of the Fourth Auditor,
Treasury Department, for the fiscal year ending June 30, 1866.*

To whom paid.	For what object.	Amount.
3d quarter 1865:		
L. F. Perry	1 rug	\$12 00
American Telegraph Co.	Telegram	2 31
H. H. Nichols	One month's services	15 00
Washington City Post Office	Postage, foreign	48 14
A. A. Watts	Washing towels	20 00
H. H. Nichols	One month's services as laborer	15 00
A. A. Watts	Cartage of boxes and bundles	3 99
Hudson Taylor	Hand stamp	12 00
W. W. Farr	Clock repairs	3 50
G. M. Wight	1 mirror	25 00
J. W. Forney	Advertising notice relative to claim	3 00
C. W. Boteler & Son	6 dozen soaps, \$12; $\frac{1}{2}$ dozen tumblers, \$3; 1 duster, \$6 50; 1 chamois, \$1 25; 2 dusters, \$10; 1 box soap, \$12; 1 hatchet, \$1 25; 8 yards cotton, \$4 45; 1 water cooler, \$11; 1 feather duster, \$5; $\frac{1}{2}$ dozen tumblers, \$1 75; 2 clocks, \$18; 1 pair spittoons, \$2 50; 1 sofa, \$35; 14 paper baskets, at \$1 50, \$21..	144 70
J. Cullen	Work, in moving, 7 $\frac{1}{2}$ days, at \$1 75.	13 12
William H. Frazier	600 file boards, at 3 $\frac{1}{2}$ cents.	21 00
Do	16 days' work in moving.	16 00
John Q. Willson	13 chairs	45 50
Blanchard & Mohun	300 Distance Tables, at 20 cents	60 00
Washington City Post Office	Foreign postage	57 08
H. Blau	Laying carpets	88 84
H. H. Nichols	Two months' (August and September) services as laborer, at \$15.	30 00
A. A. Watts	Washing towels, \$20; cartage, \$7.	27 00
S. L. Leib	1 copy McPherson's History of the Rebellion	5 00
4th quarter 1865:		
Tribune Association	Advertising notice relative to claim	3 60
H. H. Nichols	Services for month of October	15 00
L. J. Middleton & Co	Ice, 234 days	87 40
C. W. Boteler & Co	17 baskets, \$21 25; $\frac{1}{2}$ dozen chairs, \$20; 1 ice-pick, 75 cents; 1 broom, 50 cents; 1 dozen towels, \$9; 4 brooms, \$2; 2 feather dusters, \$10; 2 buckets, \$4; 2 buckets, \$1; 2 basins and pitchers, \$6; 2 trays, \$1 50; 1 ice pick, 50 cents; dust-pan, 50 cents; door mat, \$2 50; 1 gross soap, \$12; 6 pounds soap, \$1 50; 1 dozen towels, \$9; 10 yards muslin, \$6; 6 spittoons, \$6; 6 coal hods, \$5; 2 shovels, \$1.	120 00
American Telegraph Co.	Telegram to navy agent	82
W. S. Mitchell	Carpet	53 51
H. H. Nichols	Services as laborer for November	15 00
W. S. Mitchell	2 dozen towels, \$20; 2 yards cotton, \$1 25; 338 $\frac{1}{2}$ yards matting, \$1 45, \$490 82.	512 07
A. A. Watts	Washing towels, \$4; broom, 75 cents; basin, 75 cents; and bucket, 63 cents	6 13
Evening Post	Subscription	12 09
L. J. Middleton	Ice, 78 days	31 90
A. A. Watts	Washing towels	20 00
H. H. Nichols	Services for month of December	15 00
R. C. Limeaman	2 dozen soap, at \$2 40	4 80
C. W. Boteler & Co	1 dozen tumblers, \$3; 2 dust pans, \$1 50; basin and pitcher, \$2 75.	7 25
W. H. & O. H. Morrison	2 volumes Forbes's Manual of Pensions, \$2.	4 00
John Q. Willson	6 office chairs	21 00
Washington City Post Office	Foreign postage	48 77
Baltimore American	Advertising notices of deceased seamen	2 60
Philp & Solomons	Webster's Dictionary, 1 copy	16 50
1st quarter 1866:		
C. Bohn	1 dozen Congressional Directory	15 00
Boyd, Waite & Bro	4 copies Washington Directory	10 00
James Sheehy	Volume 8 Rebellion Record	6 50
H. H. Nichols	Services as laborer for January, 1866.	15 00
J. W. Forney	Advertising notice, balance due deceased seamen	2 73
C. W. Boteler & Son	4 mouse traps, \$1 90; broom, 75 cents; 2 buckets, \$1; 4 brushes, \$2; 2 brushes, \$2 50; 1 box condensed lye, 50 cents.	8 65
Hudson Taylor	3 dozen stamping ribbon	31 50
Boston Journal	Advertising notice, balance due deceased seamen	2 50
George Suter	1 oak carrier	24 00
Mary A. Walker	Repairing chairs	3 00
E. F. Lutz	Portraits of Lincoln and Grant	32 00
J. Disturnell	6 copies Post Office Directory	9 00
H. H. Nichols	Services as laborer for February, 1866	15 00
C. W. Boteler & Co	1 brush and comb, \$3; 5 ditto, \$15; 1 paste brush, 50 cents; 1 gilt frame glass, \$6 50; 1 pope's head and handle, \$2; broom, \$1; hammer and tacks, 75 cents; broom, \$1.	29 75
Washington City Post Office	Foreign postage	69 55
H. H. Nichols	Services as laborer for March, 1866	15 00
L. H. Schneider	1 set casters, 70 cents; 2 locks, \$2 30; 1 ditto, 75 cents; 5 sets casters, \$3; 1 ditto, 60 cents; 2 ditto, \$1 40	8 75
Johnson, Fry & Co	1 copy Lives of the Presidents	10 00

Analytical statement of contingent expenses, &c.—Continued.

To whom paid.	For what object.	Amount.
Samuel Paine	Cartage	\$2 00
A. A. Watts	Washing, \$20; 2 pans, \$1 50	21 50
2d quarter 1866:		
Lansburgh & Bro.	20 towels, \$10; 5 yards twill, \$1 75	11 75
H. H. Nichols	Services as laborer for May, 1866	15 00
Publishers of the Chronicle	Advertising 15 notices relative to claims	46 57
S. F. Savage	2 hatchets, at \$1	2 00
A. A. Watts	Washing, \$1; cartage, \$2 50	3 50
H. H. Nichols	Services as laborer for April, 1866	15 00
Hudson Taylor	3 boxes quill pens, \$4; sand paper, 50 cents	4 50
Nagle & Co.	1 gross soaps	10 50
Rowland & Nichols	Brushes and wisp	5 40
James Sheehy	7 volumes Chambers' Encyclopædia, at \$5 50	38 50
A. A. Watts	Washing towels	20 00
J. W. Boteler & Son	1 basket	3 00
L. J. Middleton & Co.	Ice for 156 days	67 87
Washington City Post Office	Foreign postage	117 26
Lewis Johnson	Chambers' Encyclopædia, 8th volume	5 50
H. H. Nichols	Services as laborer for June, 1866	15 00
Philadelphia Press	Advertising notice of claim	2 70
Williams & Gallant	Making 1,000 file boards	30 00
Blanchard & Mohun	Brightley's Digest, \$14 50; United States Statutes, vol. 13, \$6	20 50
Total		2,431 48

Respectfully submitted:

S. J. W. TABOR, *Auditor.*

TREASURY DEPARTMENT,
Fifth Auditor's Office, December 14, 1866.

SIR: I herewith enclose a statement of the condition and disbursements of the contingent fund for this office, for the fiscal year ending June 30, 1866.

I am, sir, yours, very respectfully,

C. M. WALKER, *Auditor.*

Hon. HUGH McCULLOCH,
Secretary of the Treasury.

Statement of the condition of the fund appropriated for the contingent expenses of the office of Fifth Auditor of the Treasury; prepared in compliance with the 20th section of the act of Congress of August 12, 1842.

Balance remaining of former appropriations, June 30, 1865	\$983 22
Amount of appropriation for the fiscal year ending June 30, 1866	2,000 00
	2,983 22
From which deduct amount expended between July 1, 1865, and June 30, 1866, as per statement annexed	\$658 31
Cost of carpet mats, &c., and making, already contracted for	1,123 26
Bills for furniture, &c., outstanding	1,200 00
	2,971 57
Balance of appropriation on hand	11 65

C. M. WALKER, *Auditor.*

TREASURY DEPARTMENT,
Fifth Auditor's Office, December 13, 1866.

Analytical statement of contingent expenses of the office of the Fifth Auditor from July 1, 1865, to June 30, 1866.

Date.	To whom paid.	For what object.	Amount.
1865.			
July 12	W. B. Moses.....	1 swivel chain.....	\$12 00
7	J. L. Dorwart.....	Daily Chronicle.....	3 90
1	City Post Office.....	Postage on foreign letters.....	61 05
	W. S. Mitchell & Co.....	Matting, oil cloth, &c.....	91 93
	Samuel D. Leib.....	1 copy History of the Rebellion.....	5 00
	Jackson Brothers & Co.....	Soap.....	2 23
Oct. 1	City Post Office.....	Postages.....	24 88
	J. L. Dorwart.....	Daily Chronicle, 3 months.....	3 00
	C. M. Wright.....	Matting, and putting down.....	121 60
	W. B. Moses.....	6 arm chairs.....	21 00
	H. Blau.....	Laying down carpets.....	12 00
Dec. 31	L. J. Middleton.....	Ice bill, 1 year.....	62 40
	S. Mead.....	Washing towels, 6 months.....	12 00
	J. L. Dorwart.....	Daily Chronicle, 3 months.....	3 00
	City Post Office.....	Postages.....	13 47
1866.			
Jan. 26	James Sheehy.....	Vol. 8 Rebellion Record.....	6 50
	S. Mead.....	One year's subscription to Evening Post.....	12 00
	C. Bohn.....	3 Department and Congressional Directories.....	3 75
	Boyd & Co.....	1 copy Washington Directory.....	2 50
Feb. 15	J. Distinull.....	1 Post Office Directory.....	2 00
	W. W. Farr.....	Repairing clock.....	3 00
	Webb & Beveridge.....	1 looking glass.....	1 75
	Do.....	3 feather dusters and 3 ewers.....	15 50
	W. B. Moses.....	6 chairs.....	16 00
	Jackson Brothers.....	3 brooms.....	1 50
Mar. 14	Philp & Solomon.....	1 Lippincott's Gazetteer.....	10 00
31	City Post Office.....	Postages.....	29 01
April 5	J. L. Dorwart.....	Daily Chronicle.....	3 00
6	C. S. Whittlesey.....	4 brooms.....	3 00
May 9	Webb & Beveridge.....	6 spittoons.....	6 50
	S. Mead.....	Washing towels.....	10 00
	Webb & Beveridge.....	1 water-cooler.....	3 50
June 28	L. J. Middleton.....	Ice bill, 6 months.....	39 00
July 6	Littlefield & Claggett.....	1 picture and frame, death-bed of Lincoln.....	10 00
	J. L. Dorwart.....	Daily Chronicle, 2 months.....	2 00
	City Post Office.....	Postages.....	19 59
	William West.....	Cleaning carpets, camphor, &c.....	8 75
	Total.....		658 31

OFFICE OF THE AUDITOR OF THE TREASURY FOR THE
POST OFFICE DEPARTMENT, *November 30, 1866.*

SIR: I have the honor to submit herewith a statement of the contingent expenses of this office for the fiscal year ending June 30, 1866, in obedience to the provisions of the act of Congress of August 26, 1842.

I have the honor to be, very respectfully,

H. J. ANDERSON, *Auditor.*

Hon. HUGH McCULLOCH,
Secretary of the Treasury.

General statement of the condition of the fund appropriated for the contingent expenses of the office of the Auditor of the Treasury for the Post Office Department; prepared in obedience to the provisions of the 20th section of the act of Congress approved August 26, 1842.

State of appropriation.	Amount.
Balance of appropriations for previous years not drawn from treasury on July 1, 1865.....	\$5,142 93
Less balance due disbursing agent July 1, 1865.....	129 27
	5,013 66
Between July 1, 1865, and June 30, 1866, there was expended for the necessary objects required for the accommodation of the office and the despatch of the public business, as will appear by the analytical statement subjoined, the sum of.....	4,938 98
Leaving a balance unexpended of.....	74 68
Which balance stood as follows on July 1, 1866, viz:	
Undrawn in the treasury.....	142 93
Less balance due disbursing agent July 1, 1866.....	68 25
	74 68

Analytical statement of the contingent expenses of the office of the Auditor of the Treasury for the Post Office Department from July 1, 1865, to June 30, 1866.

To whom paid.	For what object.	Amount.	Total.
W. W. Cox	Services in keeping and disbursing stationery from July 1, 1865, to June 30, 1866.....	\$250 00	
	Washing and making towels for the year.....	273 56	
	Amount paid for carting and cleaning carpets.....	13 00	
			\$536 56
James Reed	Services as laborer from July 1, 1865, to December 31, 1865, at \$60.....		360 00
A. Stevenson	66 days' of labor in carrying wood and coal for the office, at \$2 per day.....		132 00
J. Garrison	26 days' labor in supplying the rooms of the office with wood and water, at \$1 25 per day.....		32 50
John Shaw	6 days' work as laborer, at \$1 per day.....		6 00
R. T. Brown.....	8 volumes Rebellion Record.....		48 00
W. O. Berry.....	Buckets and water-coolers.....	23 25	
	Repairing furniture.....	7 00	
			30 25
J. Dennis, jr.....	½ dozen portfolios.....	3 50	
	1 dozen portfolios.....	15 00	
			18 50
W. B. Moses.....	6 arm chairs, at \$3 25.....	19 50	
	1 revolving chair.....	12 00	
	6 swivel chairs, at \$7.....	42 00	
	1 continental chair.....	10 00	
			83 50
Dempsey & O'Toole	2 stamps.....		12 75
G. J. Musser	10 pounds gum arabic, at \$1 50.....	15 00	
	½ dozen honey soap.....	1 00	
	15 pounds Castile soap, at 30 cents.....	4 50	
			20 50
W. H. Nally	Lettering books.....		6 00
A. Bowen	Hauling carpets.....		5 00
S. D. Leib, agent.....	History of the Rebellion.....		5 00
T. J. Hoover & Bro	2 buckets.....		60
J. W. Drane	Bill for furniture, material, and repairing in the office.....		1,223 14
A. H. Young & Co	Bill of brooms, brushes and soda.....	10 05	
	Bill of candles.....	9 60	
	Bill of soap and matches.....	5 91	
			25 56
A. H. Young.....	Bill of candles.....		11 20
A. Goulding	Bill of paper files and freight.....		8 90
J. N. Miller	Repairing furniture.....		20 00
W. H. & O. H. Morrison	1 Brightley's Digest.....	6 50	
	1 Webster's Dictionary.....	11 00	
	1 Holy Bible.....	5 00	
	2 volumes Brightley's Digest.....	14 50	
			37 00
C. Waisel.....	1 pitcher.....		3 00
Samuel Kirby	2 chairs, at \$22.....	44 00	
	1 chair.....	18 00	
	1 chair.....	45 00	
	3 chairs, at \$18.....	54 00	
	3 chairs, at \$16.....	48 00	
	1 lounge.....	50 00	
			259 00

Analytical statement of the contingent expenses, &c.—Continued.

To whom paid.	For what object.	Amount.	Total.
L. J. Middleton & Co.....	Bill of ice from July 1, 1865, to June 30, 1866		\$212 80
William Ballauf	Bill for repairing furniture from July 17, 1865, to December 1, 1865		142 00
C. W. Boteler & Son	Bill of baskets, buckets, &c.....		67 44
W. W. Farr	5 clocks.....		90 00
T. Thompson	Gas fixtures.....		9 50
William Bryan	6 pounds candles, at 65 cents.....		3 90
F. Taylor	Whitney's War Powers.....		2 50
S. F. Savage.....	Bill of baskets, tacks and hatchet, &c.....		11 45
D. Ballauf	Repairing furniture in office.....		96 60
J. Sheeley	1 volume Annual Cyclopædia		6 50
S. Bacon & Co.....	1 dozen salt sacks		4 80
J. W. Boteler & Bro	Water-coolers, pitchers, &c.....		86 11
H. W. Hinkle	Repairing furniture in the office from January 10 to June 30, 1866.....		116 76
W. S. Mitchell	135 yards towelling, at 56½ cents.....	\$75 94	
	18 pieces tape, \$2 50; 24 spools cotton, \$3 60	6 10	
	5 pieces crape, \$35; 2 yards calico, \$1 25	36 25	
	1 mat, \$3 50; 3½ yards oil cloth, \$5.....	8 50	
	30 yards satin delaine, at \$5.....	150 00	
	62½ yards buff silesia, at 75 cents.....	46 88	
	Rings, binding, silk, &c.....	17 50	
	184½ yards carpeting, at \$2 25	415 13	
	55 yards carpeting, at \$2 25	123 75	
	4½ yards oil cloth, at \$2 25	10 12	
	21½ yards cocoa matting, at \$1 50	32 25	
	Sewing, laying and twine.....	46 70	
	4 cornices \$30; 4 sets curtains \$24	54 00	
	4 sets centre and side tassels	48 00	
	44½ yards gimp, at 87½ cents.....	38 94	
	Hanging cornice and curtains.....	6 00	
Boyd & Waite Brothers.....	5 copies City Directories		1, 116 06
J. D. Duncan	1 Mitchell's Atlas.....		12 50
L. Tomson	1 volume Rebellion Record		10 00
William Eichler	Repairing clocks		6 00
C. Bohn	1 dozen Congressional Directories		5 00
Snow, Coyle & Co.....	National Intelligencer.....		3 00
Tribune Association	New York Tribune.....		7 10
Littlefield & Clagett	Picture and frame.....		5 00
Isaac Clark	Hauling and cleaning carpets		10 00
E. S. Zevely	1 stamp.....		14 00
E. D. Chamberlin	1 stamp.....		2 00
			13 00
			4,938 98

TREASURY OF THE UNITED STATES,

Washington, December 14, 1866.

SIR: I have the honor to submit the enclosed statement, showing the disposition of the contingent fund of this office for the year ending June 30, 1866.

Very respectfully,

F. E. SPINNER,

Treasurer United States.

Hon. HUGH McCULLOCH,

Secretary of the Treasury.

Statement showing the condition of the contingent fund of the office of the Treasurer United States for the year ending June 30, 1866, as required by the 20th section of the act of August 26, 1842.

Amount in treasury July 1, 1865.....	\$4,000 00	
Amount of appropriation.....	10,000 00	\$14,000 00
Amount due disbursing clerk.....	89 76	
Amount expended from July 1, 1865, to June 30, 1866.....	4,208 28	
Amount unexpended—		
In the hands of disbursing clerk.....	\$791 72	
In the treasury.....	8,910 24	
	<u>9,701 96</u>	<u>14,000 00</u>

F. E. SPINNER,
Treasurer United States.

OFFICE TREASURER UNITED STATES,
Washington, December 14, 1866.

Statement of the disbursement of the Treasurer's contingent fund for the year ending June 30, 1866.

Number of voucher.	To whom paid.	On what account.	Amount.	Total.
	1st qr. ending Sept. 30, 1865:			
1	George T. Browning.....	One horse.....	\$190 00	
2	E. F. Lutz.....	Two portraits.....	32 00	
3	M. J. O'Shaugnessy.....	D. C. Yingling, R. Hill, and sundries.....	26 00	
4	P. White & Co.....	Soap.....	52 20	
5	George Fulton.....	One eagle.....	12 00	
6	D. C. Yingling.....	Taking care of one horse.....	24 00	
7	J. F. Doran.....	Shoeing of one horse.....	5 00	
8	William C. Bryant & Co.....	Subscription to Evening Post.....	12 00	
9	Caroline Davis.....	Hemming towels.....	2 10	
10	F. A. Lutz.....	One set harness.....	235 00	
11	D. C. Forney.....	Advertising letter.....	10 00	
12	F. A. Lutz.....	Mail-pouch.....	10 75	
13	William S. Mitchell & Co.....	Carpets.....	590 00	
14	John F. Doran.....	Shoeing horse.....	4 63	
15	D. C. Yingling.....	Keeping of horse.....	18 00	
16	W. S. Thompson.....	Chamois skins.....	2 00	
17	D. C. Yingling.....	Keeping of horse.....	17 50	
18	Samuel D. Leib.....	One copy McPherson's History of the Rebellion.....	5 00	
19	Franklin & Co.....	One thermometer.....	5 00	
20	H. Blau.....	Laying carpet.....	12 24	
21	Sophia Holmes.....	Washing towels.....	45 17	
22	C. L. Van Zandt, secretary.....	Printing drafts.....	148 50	\$1,459 09
	2d qr. ending Dec. 31, 1865:			
1	D. C. Yingling.....	Keeping of horse.....	17 50	
2	J. L. Douvart.....	Subscription to Chronicle.....	13 80	
3	D. C. Yingling.....	Keeping of horse.....	17 50	
4	J. P. Milburn & Co.....	Alcohol.....	1 60	
5	Henry Cook.....	Locks.....	3 10	
6	F. A. Lutz.....	Horse covers.....	27 00	
7	John F. Doran.....	Shoeing horse.....	3 63	
8	D. C. Yingling.....	Keeping of horse.....	17 85	
9	W. F. Brett's Sons.....	Soap.....	17 00	
10	E. F. Lutz.....	Portrait of General Sherman.....	16 00	
11	Sophia Holmes.....	Washing towels.....	20 07	
12	R. H. Graham.....	Repairs of carriage.....	17 00	
13	Sibley & Guy.....	Repairing water pitcher.....	20	
14	D. C. Yingling.....	Keeping of horse.....	17 50	
15	John F. Doran.....	Shoeing horse.....	2 50	
16	American Bank Note Company.....	Printing drafts.....	94 50	
17	J. B. Mansfield.....	One copy American Loyalist.....	2 00	
18	L. J. Middleton & Co.....	Ice.....	113 20	
19	J. C. Beale.....	Stationery.....	35 00	
20	John F. Doran.....	Shoeing horse.....	5 38	
21	Thomas W. Miller.....	Two drop lights.....	20 00	
22	H. Blau.....	Laying and repairing carpets.....	55 73	
23	John Q. Willson.....	Bedding.....	36 00	554 06

Statement of the disbursement of Treasurer's contingent fund, &c.—Continued.

Number of voucher.	To whom paid.	On what account.	Amount.	Total.
	3d qr. ending Mar. 31, 1866:			
1	C. Bohn.....	Congressional and Departmental Directory...	\$10 00	
2	Kneessi & Norfleet.....	Leather straps.....	6 00	
3	Hudson Taylor.....	Stationery.....	27 50	
4	D. C. Yingling.....	Keeping of horse.....	17 50	
5	C. W. Boteler & Son.....	Soap dishes.....	9 00	
6	Boyd & Waite Bros.....	Washington Directory.....	15 00	
7	L. H. Schneider.....	Oil-stone.....	2 80	
8	F. A. Lutz.....	Repairs of carriage and harness.....	42 26	
9	William S. Mitchell.....	Carpeting.....	222 87	
10	J. Disturnell.....	Copies of Post Office Directory and United States Register.....	27 50	
11	C. A. Cripps.....	Covering and repairing desks.....	40 00	
12	John F. Doran.....	Shoeing horse.....	4 87	
13	D. C. Yingling.....	Keeping of horse.....	17 50	
14	P. White & Co.....	Soap.....	13 75	
15	Henry Kaiser.....	Boards.....	33 00	
16	J. P. Milburn & Co.....	Sweet oil.....	1 00	
17	R. H. Graham.....	Repairing carriage.....	5 00	
18	C. W. Boteler & Son.....	Crockery.....	112 25	
19	L. J. Middleton.....	Ice.....	36 40	
20	S. F. Savage.....	Bucket and dust-pan.....	80	
21	American Bank Note Company.....	Printing drafts.....	600 00	
22	L. H. Schneider.....	Locks.....	6 00	
23	S. F. Savage.....	Brooms.....	12 00	
24	John F. Doran.....	Shoeing horse.....	2 50	
25	Sophie Holmes.....	Washing towels.....	25 57	
26	D. C. Yingling.....	Keeping of horse.....	18 00	
27	J. F. Doran.....	Shoeing horse.....	1 50	
28	Louisa Hill.....	Hemming towels.....	1 32	
				\$1,311 89
	4th qr. ending June 30, 1866:			
1	D. C. Yingling.....	Keeping of horse.....	17 50	
2	John F. Doran.....	Shoeing of horse.....	1 50	
3	J. W. Boteler & Bro.....	Sundries.....	36 40	
4	do.....	do.....	26 50	
5	Philp & Solomons.....	Stationery.....	392 25	
6	John F. Doran.....	Shoeing horse.....	2 50	
7	E. D. Chamberlain.....	Ribbon stamp.....	10 25	
8	William C. Bryant & Co.....	Subscription to Evening Post.....	12 00	
9	J. W. Boteler & Bro.....	Furniture.....	27 50	
10	D. C. Yingling.....	Keeping of horse.....	17 50	
11	Alex. T. Stewart & Co.....	Matting.....	22 00	
12	N. W. Burchell.....	Soap.....	7 44	
13	George B. M. Cartee.....	Camphor.....	1 00	
14	R. H. Graham.....	Carriage fixtures.....	173 15	
15	D. C. Yingling.....	Keeping horse.....	17 50	
16	F. A. Lutz.....	Repairs of harness.....	16 00	
17	Littlefield & Clagett.....	Picture.....	3 00	
18	J. F. Doran.....	Shoeing horse.....	2 50	
19	do.....	do.....	3 25	
20	L. J. Middleton.....	Ice.....	68 00	
21	Kneessi & Norfleet.....	Straps.....	6 00	
22	R. J. Ryan.....	Brooms.....	19 50	
				883 24
	Total.....			4,208 28

Statement of the sums paid from the contingent fund of the office of the Solicitor of the Treasury for books, binding, labor, and miscellaneous items, and for statutes and reports, for the fiscal year ending June 30, 1866.

To whom paid.	For what object.	Amount.
Thomas Dutton	Labor and miscellaneous	\$805 39
W. S. and Am. Telegraph Co's.	Telegrams	263 87
Hudson Taylor	Books	14 50
Franck Taylor	Books and reports	81 10
Samuel D. Leib	History	5 00
W. H. & O. H. Morrison	Books	130 50
D. B. Canfield & Co.	Law register	8 00
Boyd, Waite & Bro's.	Books	12 50
C. Bohn	Books	5 00
W. H. Braund	Books	6 50
Johnson, Fry & Co.	Books	10 00
J. L. Dorwart	Chronicle	15 90
H. P. Lampers	Paper	2 50
W. S. Mitchell & Co.	Oil-cloth	37 50
Snow, Coyle & Co.	Intelligencer	10 00
G. M. Wight	Office chairs	88 00
C. W. Boteler & Son	Tumblers, &c.	20 25
L. J. Middleton	Ice	57 32
N. Callan	Taking acknowledgment of deeds	4 00
Army and Navy Journal	Subscription	6 00
National Republican	do	2 50
Postmaster Bowen	Postage	2 88
Pottier & Stymus	Office furniture	658 50
National Currency Bureau	Printing and composition	183 16
H. Blau	Laying carpets	37 91
W. & J. Sloane	Office carpet	392 79
Henry Kaiser	Repairing furniture	7 00
S. F. Savage	Dusters	6 20
Evening Post	Subscription	12 00
Total expended		2,886 77

Statement showing the general state of the appropriations for the contingent expenses of the Solicitor's office at the close of the fiscal year ending June 30, 1866.

State of appropriation.	Amount.	Total.
Balance of appropriations unexpended June 30, 1865	\$3,037 53	
To which add appropriation of 1865	2,200 00	\$5,237 53
From which deduct amount of bills paid by the disbursing clerk for the fiscal year, as per preceding statement		2,886 77
Leaving unexpended July 1, 1866		2,350 76
Of which there remained in the treasury undrawn	1,937 53	
In hands of disbursing clerk	413 23	2,350 76

TREASURY DEPARTMENT,
Solicitor's Office, December 12, 1866.

SIR: In accordance with the requirements of the 20th section of the act of Congress approved August 26, 1842, I have the honor to transmit herewith a general statement of the appropriations for the contingent expenses of this office, and a statement showing in detail the disbursements therefrom, during the fiscal year ending June 30, 1866, and the balance remaining unexpended July 1, 1866.

I have the honor to be, very respectfully,

EDWARD JORDAN,
Solicitor of the Treasury.

Hon. HUGH McCULLOCH,
Secretary of the Treasury.

General statement of the condition of the fund appropriated for the contingent expenses of the Register of the Treasury Department for the fiscal year ending June 30, 1866 ; prepared in obedience to the provisions of the 20th section of the act of Congress of August 26, 1842.

State of appropriation.	Amount.	Total.
Balance of appropriations July 1, 1865	\$460 74	
Appropriated by act of March 2, 1865	8,000 00	
		\$8,460 74
Balance due disbursing clerk July 1, 1865	70 23	
Expended during the fiscal year, per analytical statement	8,260 49	
Balance of appropriation June 30, 1866	58 37	
Balance in hands of disbursing clerk July 1, 1866	71 65	
		8,460 74

Analytical statement of the contingent expenses of the Register of the Treasury from July 1, 1865, to June 30, 1866.

To whom paid.	For what object.	Total amount.
J. Angeny	Arranging and filing marine papers from July 1, 1865, to March 31, 1866	\$900 00
H. C. Gill	Paying 3 colored women for cleaning office from July 1, 1865, to January 29, 1866, and for sundries furnished the office during same period	666 40
American Telegraph Co.	Telegraphing for Register's office from May 10 to September, 1865 ..	8 90
H. Kaiser	Sundry articles of furniture, and for repairing old during fiscal year ..	2,589 50
H. Blau	Repairing and trimming Venetian blinds, laying matting, fixing green curtains, &c.	108 69
Snow, Coyle & Co.	Daily National Intelligencer from Jan. 1, 1864, to Jan. 1, 1865	10 00
E. F. Lutz	Portraits of President Lincoln and General U. S. Grant	32 00
H. Grossmayer	20 dozen soap	15 00
N. York Journal Commerce ..	Daily paper from August 16, 1864, to August 16, 1865	16 00
J. L. Dorwait	Daily Chronicle from April 16, 1865, to July 16, 1866	15 90
Charles D. Lord	Dust pans, buckets, gas stove and fixtures, &c.	19 25
Wm. S. Mitchell & Co	Cocoa matting, &c., for Register's office	500 91
Wm. S. Mitchell	Cocoa matting, &c., for Register's office	375 75
P. J. Bellew & Co.	1 large fancy walnut painted mirror	13 50
S. D. Leib	1 copy McPherson's History of the Rebellion	5 00
J. McCoocy	Pay as laborer from 1st to 30th September, 1865	60 00
National Currency Bureau ..	$\frac{1}{4}$ day's work tempering puncher, \$1 50 ; $\frac{1}{4}$ day's work machinist finishing puncher, \$3 60	5 10
Franck Taylor	Volumes 7 and 8 of Rebellion Record, at \$6 50, \$13 ; 1,000 Bristol board cards, \$8 50	21 50
Anora Wolfe	Hemming 61 towels	6 20
Wallace Eliot	Gum arabic	16 25
L. J. Middleton & Co.	Ice from January 1, 1865, to June 30, 1866	321 50
E. Clark	Services as laborer from November 1, 1865, to April 15, 1866, at \$60 per month	328 70
James Durnais	2 copies of the Assassination of President Lincoln, at \$4	8 00
E. & G. W. Blunt	1 American Lloyd's Register for 1865	20 00
J. P. Milburn	1 bottle alcohol	1 40
C. W. Boteler & Son	Baskets, spittoons, tumblers, basins, dishes, &c.	41 75
George J. Suter	15 boxes, at \$3 25, \$48 75 ; staining and varnishing 19 boxes, at 75 cents, \$14 25	63 00
Kneesi & Norfleet	1 mail bag with straps and locks	10 50
J. Vanarsdale	Services as laborer from December 14, 1865, to January 31, 1866, at \$30 per month, \$47 60 ; services for February, March, and April, at \$50, \$150	197 60
Bouis & Co.	Repairing buckets	1 90
John Ogden	Dusters, baskets, pails, brushes, traps, &c.	21 15
Louis Tomson	Volumes 7 and 8 Chambers's Encyclopædia, at \$5 50	11 00
Eliza Barbour	Washing towels, &c.	46 87
Laborers	Julia Smallwood, Margaret Carter and Ellen Ridgley, at \$20 per month each for March, April, May, and June, 1866	240 00
J. B. Bryan & Brothers	33 pounds Castile soap, at 30 cents	9 90
E. A. Clear	Services as clerk in April, May, and June, 1866, at \$60 per month ..	180 00
S. F. Savage	Locks, coal hods, shovels, baskets, &c.	16 75
Webb & Beveridge	1 water-cooler	3 50
National Republican	Subscription from June 23, 1863, to July 1, 1866	17 75
R. C. Fox	Telegrams of American Telegraph Company	3 67
Horatio Bates	Telegrams of United States Telegraph Company	2 85
U. S. Telegraph Company ..	Telegrams of United States Telegraph Company	1 34
Sibley & Guy	1 bucket	1 00
S. M. Raymond	4 microscopes, at \$3	12 00
C. Donovan	Camphor and tobacco for carpets	2 00

Analytical statement of the contingent expenses, &c.—Continued.

To whom paid.	For what object.	Total amount.
T. D. Taylor.....	1 copy of Lloyd's Register.....	\$20 00
Hudson Taylor.....	4 feather du-ters.....	13 00
W. B. Danna & Co.....	Commercial and Financial Chronicle and Daily Bulletin from January 6 to December 29, 1866.....	10 00
C. Bohn.....	$\frac{1}{2}$ dozen Department and Congressional Directories.....	7 50
H. M. Shuster & Bro.....	59 $\frac{1}{2}$ yards huckaback, at 50 cents; 6 pieces tape 12 cents.....	30 62
D. C. Forney.....	50 copies Daily Chronicle.....	2 50
J. B. Williamson.....	Desks, chairs, shelves, bookcases, and repairing furniture, &c.....	703 75
J. Disternall.....	2 United States Registers and 1 Post Office Directory.....	4 50
J. D. Duncan.....	1 copy Mitchell's Atlas.....	10 00
Ellen Ridgley.....	Pay as laborer for February, 1866.....	20 00
W. H. Braund.....	8 volumes Rebellion Record, \$6 50; 4 Chambers's Encyclopædia, at \$5 50, \$22.....	28 50
M. Carter.....	Pay as laborer in February, 1866.....	20 00
J. A. Smallwood.....	Pay as laborer in February, 1866.....	20 00
Michael Moore.....	Moving public papers 10 $\frac{1}{2}$ days, at \$2.....	21 00
P. Scanlon.....	Moving public papers 10 $\frac{1}{2}$ days, at \$2.....	21 00
J. H. Kuehling.....	Repairing locks and keys, &c.....	3 00
E. H. & H. I. Gregory.....	Repairing ice pitcher.....	25
M. J. Martin.....	1 copy of American Loyalist 1 year, from March 10, 1866.....	2 00
R. Buchly.....	1 lounge.....	12 00
James Sheehy.....	Volumes 5 and 6 Chambers's Encyclopædia, at \$5 50.....	11 00
Franklin & Co.....	1 magnifying glass.....	5 00
J. R. Foley.....	1 dozen tumblers \$2 50, soap tray 25 cents.....	2 75
Philp & Solomon.....	1 Lippincott's Gazetteer.....	10 00
	Amount paid S. M. Clark for printing, &c.....	332 14
Total.....		8,260 49

S. B. COLBY, *Register.*TREASURY DEPARTMENT, *Register's Office, December 13, 1866.**General statement of the condition of the fund appropriated for contingencies for the office of the Light-house Board, as required by the 20th section of the act of Congress of August 26, 1842.*

State of the appropriation.	Amount.
Amount in hands of disbursing clerk June 30, 1865.....	\$91 55
Amount in treasury.....	700 00
Total.....	791 55
Expenditures from July 1, 1865, to June 30, 1866.....	316 81
Amount in treasury to credit of appropriation July 1, 1866.....	\$500 00
From which deduct for balance due to disbursing clerk.....	25 26
Total.....	474 74
	791 55

O. M. POE, *Engineer,
Secretary, for Chairman.*TREASURY DEPARTMENT, *Office Light-house Board, December 15, 1866.*

Analytical statement of the contingent expenses of the Light-house Board for the year ending June 30, 1866.

To whom paid.	For what paid.	Amount.	Total.
Washington City P. O....	Postage for quarter ending March 31, 1865	\$5 13	\$33 88
	Do.....do.....June 30, 1865.....	4 31	
	Do.....do.....September 30, 1865.....	8 49	
	Do.....do.....December 31, 1865.....	7 35	
	Do.....do.....March 31, 1866.....	8 60	
Gurden Snowden.....	Washing towels for office from April 1, 1865 to June 30, 1866	25 00	45 35
	Soap, \$4 75; brooms, \$1 50; water bucket, \$1 50; pair scales, 50 cents; feather duster, \$3.....	11 25	
	Brushes and marking ink, 65 cents; 2 pounds candles, \$1 20; seating 2 chairs, \$2 50; repairing scissors, 85c.....	5 20	
	Hemming towels and tape, \$2 25; tacks for carpets, 65 cents; tobacco for carpets, \$1.....	3 90	
William West.....	Shaking carpets, \$14 50; 2 lbs. pepper for same, \$1 50.....		16 00
L. J. Middleton & Co.....	Ice for the year 1865, 312 days.....		31 20
J. L. Dorwart.....	Subscription to Daily Chronicle from April 2, 1865, to July 2, 1866		15 90
J. L. Elliott.....	Subscription to Sailors' Magazine for one year		1 00
C. Bohn	Departmental and Congressional Directory		1 25
Boyd & Waite Bros	Directory		2 50
William Smith	Cancelling stamp		8 00
William H. Moore	Printing circulars.....		11 00
Littlefield & Clagett	Picture and frame, "Death-bed of Lincoln"		8 00
Joseph Gawler	Repairing and recaning 10 chairs.....		10 50
S. F. Savage.....	2 step-ladders.....		8 50
Wm. S. Mitchell & Co.....	1 box black crape.....		7 00
J. J. May & Co	2 dozen towels.....		12 00
Perry & Brother	Cotton, \$2 63; cambric, \$1 10.....		3 73
C. S. Whittlesey	Varnish brush		1 00
Charles Wilson	Hauling light-house and buoy lists to navy yard.....		2 00
Robert Hatton	49 days' labor		98 00
	Total.....		316 81

TREASURY DEPARTMENT,

Office of Commissioner of Customs, November 14, 1866.

SIR: I have the honor to enclose herewith a detailed statement of the contingent expenses of this office, and statement of the condition of the appropriation for that purpose, for the fiscal year ending June 30, 1866.

Very respectfully, your obedient servant,

N. SARGENT,

Commissioner of Customs.

Hon. H. McCulloch,

Secretary of the Treasury.

Detailed statement of the contingent expenses of the office of Commissioner of Customs for the fiscal year ending June 30, 1866; prepared in compliance with the 20th section of the act of August 26, 1842.

To whom paid.	For what object.	Amount.	Total.
Hudson Taylor.....	Annual Scientific Discovery.....		\$1 75
Franck Taylor.....	Statesman's Year Books.....		14 93
S. D. Leib.....	McPherson's History of the Rebellion.....		5 00
John Livingston.....	Law Directory.....		5 00
W. H. Braud.....	Rebellion Record, vol. 8.....		6 50
C. Bohn.....	5 Congressional Directories.....		6 25
Boyd & Waite Bros.....	2 Washington Directories.....		5 00
J. G. Osborn.....	1 vol. Lossing's Civil War.....		6 30
Wm. H. & O. H. Morrison.....	3 Brightley's Digest, vol. 1, at \$8.....	\$24 00	
	1 Story's Constitution.....	8 00	
	1 Parson's on Maritime Law.....	13 00	
	1 Kent's Commentaries, 4 vols.....	20 00	
	4 Brightley's Digest, 2 vols., at \$6 50.....	26 00	
	1 Webster's Dictionary.....	10 50	
	1 Peter's C. C. Reports.....	6 00	
	1 McLean's, 6 vols., at \$7.....	42 00	
	1 Ware's.....	6 00	
	1 Crabb's.....	6 00	
	1 Washington's, vols. 1, 2, and 3.....	19 50	
	1 Paine's.....	12 00	
	1 Gilpin's Reports.....	12 50	
	1 Marshall's Decisions.....	15 00	
	1 Wallace, jr., C. C. Reports, vol. 2.....	6 50	
	1 Baldwin's C. C. Reports.....	7 00	
	1 Blatchford's C. C. Reports, 3 vols.....	23 50	
	1 Davies's C. C. Reports.....	8 50	
	1 Map of Massachusetts.....	10 00	
	1 Map of New York.....	10 00	
	1 Map of Rhode Island.....	8 00	
	1 Map of Connecticut.....	8 00	
	1 Diary.....	2 25	
			304 25
J. D. Duncan.....	1 Mitchell's Atlas.....		10 00
Johnson, Fry & Co.....	1 Lives of Presidents.....		10 00
Jos. H. Richardson.....	The Nation.....		3 00
J. W. Bell.....	National Intelligencer.....		9 00
C. F. Lutz.....	Lincoln, Grant, and Sherman, at \$16 each.....		48 00
Littlefield, Claggett & Co.....	Death-bed of Lincoln.....		3 00
John Markriter.....	Frames and tassels.....		18 00
Herman Blau.....	Repairing 3 blinds.....	1 50	
	1 cord to blind and 1 shade.....	7 50	
	37 yards matting and making.....	9 24	
			18 24
W. S. Mitchell & Co.....	18 yards matting.....	29 25	
	37 yards matting.....	55 50	
			84 75
C. W. Boteler & Son.....	2 ewers and basins.....	4 50	
	2 soap slabs.....	40	
	2 spittoons.....	1 50	
			6 40
E. H. King.....	Fitting locks and keys to drawers.....	5 00	
	6 revolving chairs, at \$6.....	36 00	
	Repairing chairs.....	10 00	
	1 cane-seat and leather chair.....	7 00	
	Covering table and mending.....	15 50	
	1 cane and leather seat.....	4 00	
	2 walnut washstands, at \$24.....	48 00	
	1 walnut washstand.....	24 00	
	3 looking-glasses, at \$3 50.....	10 50	
	Mending press.....	5 00	
	Covering 2 tables with cloth.....	24 00	
	1 walnut step-ladder.....	7 00	
	1 map strip.....	4 00	
	Repairing chairs.....	6 00	
	1 mahogany case.....	200 00	
	1 walnut table and case.....	125 00	
	1 large glass and cord.....	10 00	
	Mending drawers and case.....	6 00	
	1 cherry case.....	30 00	
	1 mahogany case.....	40 00	
	1 walnut rack for maps.....	12 00	
	Caning and covering 3 chairs.....	8 00	
	1 revolving chair.....	15 00	
	1 table with cloth.....	12 00	
	2 walnut tables and cases.....	250 00	
			909 50

Detailed statement of the contingent expenses, &c.—Continued.

To whom paid.	For what object.	Amount.	Total.
C. A. Sengslock.....	Glazing, 2 lights glass.....		\$5 25
Douglass Moore.....	91½ yards cocoa matting.....	\$149 09	
	Sewing and laying.....	18 35	
	Moving furniture.....	5 00	
	1 hair-cloth cushion.....	5 00	
Kidwell & Henderson....	Papering room No. 80.....		177 44
J. R. Foley.....	1 looking-glass.....		6 00
J. P. Libbey.....	1 ice pitcher.....		14 50
L. J. Middleton & Co.....	Ice.....		16 00
U. S. and Am. Tel. Co.....	Telegraphing.....		54 43
Ebbs & Yates.....	18 towels.....		80 87
J. W. Colley & Co.....	24 towels.....		15 75
Virginia Butler.....	Washing towels.....		13 75
W. S. Thompson.....	43 cakes soap.....		49 00
T. C. Burns.....	2 gross matches.....		7 00
C. C. Willard.....	Brooms, buckets, and candles.....		13 00
W. H. Colton.....	Marking tools.....		2 78
N. W. Burchell.....	½ gross soap.....		5 50
Pat. White & Co.....	6 dusters.....	11 00	8 25
	4 brooms.....	2 25	
	6 mops.....	1 25	
	1 chamois skin.....	1 25	
J. R. Foley.....	½ dozen tumblers.....	2 15	15 75
	2 brooms.....	1 00	
G. W. Hines.....	Express charges.....	3 25	3 15
	½ dozen wisps.....	1 86	
	Cartage.....	3 00	
	Freight.....	8 00	
A. J. Marshall.....	Screwdriver, hatchet, and ice pick.....	2 69	16 11
	Cartage.....	3 90	
			6 59
	Total.....		1,985 99

General statement of the condition of the fund appropriated for the contingent expenses of the office of Commissioner of Customs for the fiscal year ending June 30, 1866; prepared in obedience to the provisions of the 2d section of the act of August 26, 1842.

Balance of appropriation for the fiscal year ending June 30, 1865:		
Undrawn, in the treasury.....	\$1,451 84	
In the hands of agent.....	270 70	
	<u>\$1,725 54</u>	
Appropriation for fiscal year ending June 30, 1866.....	3,000 00	
	<u> </u>	\$4,725 54
Expended during fiscal year ending June 30, 1866.....		<u>1,985 99</u>
Unexpended balance June 30, 1866.....		2,739 55
Which balance stood as follows:		
Undrawn in the treasury June 30, 1866.....	\$2,725 54	
In the hands of the agent June 30, 1866.....	14 01	
	<u> </u>	<u>2,739 55</u>

CONTRACTS BY THE ENGINEER DEPARTMENT.

LETTER

FROM

THE SECRETARY OF WAR,

TRANSMITTING

List of contracts made by the officers of the Engineer department during the year 1866.

JANUARY 19, 1867.—Laid on the table and ordered to be printed.

WAR DEPARTMENT,
Washington City, January 18, 1867.

SIR: In compliance with the requirements of the fifth section of the act of April 21, 1808, I have the honor to transmit herewith a list of contracts made by the officers and agents of the Engineer department during the year 1866.

Very respectfully, sir, your obedient servant,

EDWIN M. STANTON,
Secretary of War.

Hon. SCHUYLER COLFAX,
Speaker of the House of Representatives.

List of contracts received at and made by the Engineer department during the year 1866, required by 5th section of act of April 21, 1808, chap. 48, to be reported annually to Congress.

Contractors.	Date.	Objects and terms of contracts.
Abraham P. Grant with Brevet Lieut. Col. C. E. Blunt, corps of engineers.	Aug. 27	For furnishing two steam dredging machines, with scows and crews complete, and for dredging in the harbor of Oswego, N. Y., at \$80 per day for each dredge. Contract to exist from September 1, 1866, to October 31, 1867.
Joseph Hankey with Major W. P. Craighill, corps of engineers.	Sept. 12	For furnishing coal for dredges and tug, Patapsco river, at \$5 65 per ton. Contract to expire October 27, 1866.
J. N. Collins & Co. with Brevet Lieut. Col. C. E. Blunt, major corps of engineers.	Sept. 18	For furnishing wrought-iron spikes for repair of United States pier at Oswego, N. Y., at eight cents per pound. Contract to expire December 31, 1867.
Albert G. Cook with Brevet Lieut. Col. C. E. Blunt, major corps of engineers.	Sept. 18	For furnishing iron for United States pier at Oswego, N. Y., at 5½ cents per pound. Contract to expire December 31, 1867.
John W. P. Allen with Brevet Lieut. Col. C. E. Blunt, major of engineers.	Aug. 27	For towing scows in Oswego harbor, at \$5 for each round trip. Contract to continue as long as towing may be required.
Abraham P. Grant with Brevet Lieut. Col. C. E. Blunt, major of engineers.	Oct. 4	For dredging in the harbor of Big Sodus, N. Y., at \$80 per day for each dredge, so long as such dredging may be continued.
Jas. and Wm. Hall with Major G. H. Mendell, corps of engineers.	June 26	Repairs on Plymouth beach, Mass.; to furnish all the materials and make the repairs at \$3 50 for each running foot of 1,000 feet of breakwater, and for each running foot of 300 feet of breakwater \$4 12. Contract to expire on completion of repairs.
Robert Allen with Captain J. A. Tardy, corps of engineers.	Sept. 13	For furnishing stone for piers at Charlotte, N. Y., at \$6 70 per cord. Date of closing contract not stated.
Thomas Parsons with Captain John A. Tardy, corps of engineers.	Sept. 13	For furnishing lumber for use at Charlotte, N. Y., at prices ranging from 19 cents for each lineal foot to \$35 per thousand feet, board measure. Time of expiration of contract not stated.
R. N. Gere with Captain John A. Tardy, corps of engineers.	Sept. 15	For furnishing iron and spike for use at Charlotte, N. Y., at five cents per pound for iron and seven cents per pound for spike. Time of expiration of contract not stated.
Heber Squier with Major J. B. Wheeler, corps of engineers.	Aug. 29	For furnishing materials and repairing the south pier at Grand Haven, Mich., at rates stipulated therein. Repairs to be completed December 31, 1866.
J. W. P. Allen with Brevet Lieut. Col. C. E. Blunt, major of engineers.	Oct. 8	For furnishing one or more steam tug-boats for use in the harbor of Big Sodus, N. Y., in towing dump scows, at \$5 for each round trip. Expiration of contract indefinite.
Abraham P. Grant with Brevet Lieut. Col. C. E. Blunt, major of engineers.	Oct. 8	For furnishing ballast stone for Oswego harbor pier, at \$1 45 per cubic yard. Contract to cease October 31, 1867.
Abraham P. Grant with Brevet Lieut. Col. C. E. Blunt, major of engineers.	Oct. 8	For furnishing dredge machines and dumping scows for dredging in Little Sodus harbor, N. Y., at \$50 per day for each dredge, when actually engaged in dredging. Expiration of contract July 31, 1867, or later.

Abraham P. Grant with Brevet Lieut. Col. C. E. Blunt, major of engineers.	Oct.	8	For furnishing timber to be used in repairing the United States pier at Oswego harbor, N. Y., at 20 cents per cubic foot for hemlock, and \$24 per thousand feet for beech and maple, board measure. Contract expires November 30, 1867.
Abraham P. Grant with Brevet Lieut. Col. C. E. Blunt, major of engineers.	Oct.	8	For furnishing labor for repairing United States pier at Oswego, N. Y., at \$1,000 per month. Contract expires November 30, 1867.
John W. P. Allen with Brevet Lieut. Col. C. E. Blunt, major of engineers.	Oct.	22	For towing scows in the harbor of Little Sodas, N. Y., at \$5 for each round trip. Contract expires November 30, 1867.
Emory R. Seward with Brevet Major Gen. John Newton, lieutenant-col. of engineers.	Oct.	17	For furnishing rubble-stone for use in the dykes on the Hudson river, N. Y., 4,000 cubic yards or more, at \$1.50 per cubic yard. Contract expires on or before November 25, 1866.
Horace Tyler with Brevet Lieut. Col. M. D. McAlester, captain corps of engineers.	Nov.	5	For deepening the southwest pass of the Mississippi river and maintaining the same to a width of 200 feet and a depth of 18 feet. Contract extends to April 23, 1867, and to be paid for as the work progresses, as follows: For deepening, \$49,900; for maintaining, per month, \$6,700.
Albert G. Cook with Brevet Lieut. Col. C. E. Blunt, major of engineers.	Oct.	23	For furnishing iron to be used for repairing the United States pier at Big Sodas harbor, N. Y., at six cents per pound. Contract expires November 30, 1863.
Albert G. Cook with Brevet Lieut. Col. C. E. Blunt, major of engineers.	Oct.	23	For furnishing iron required for repair of United States pier at Big Sodas harbor, N. Y., at six cents per pound. Contract expires November 30, 1867.
Albert G. Cook with Brevet Lieut. Col. C. E. Blunt, major of engineers.	Oct.	23	For furnishing iron for the repair of the United States pier at Little Sodas harbor, N. Y., at six cents per pound. Contract expires November 30, 1867.
J. N. Collins & Co. with Brevet Lieut. Col. C. E. Blunt, major of engineers.	Oct.	18	For furnishing wrought iron spikes for repair of United States pier at Little Sodas harbor, N. Y., at eight and one-quarter cents per pound. Contract expires November 30, 1867.
J. N. Collins & Co. with Brevet Lieut. Col. C. E. Blunt, major of engineers.	Oct.	18	For furnishing wrought iron spikes for repair of United States pier at Big Sodas harbor, N. Y., at eight and one-quarter cents per pound. Contract expires November 30, 1867.
R. N. Gere with Brevet Lieut. Col. C. E. Blunt, major of engineers.	Nov.	7	For labor on cribs at Big Sodas, N. Y., at \$12 for every thousand feet, board measure, of timber and lumber used; labor on iron work not included in contract. Contract expires December 31, 1867.
R. N. Gere with Brevet Lieut. Col. C. E. Blunt, major of engineers.	Nov.	7	For labor in putting in iron and spikes into the pier or cribs at Big Sodas bay, N. Y., at two cents per pound. Contract expires December 31, 1867.
R. N. Gere with Brevet Lieut. Col. C. E. Blunt, major of engineers.	Nov.	7	For labor on cribs at Little Sodas, N. Y., at \$10 for every thousand feet, board measure, of timber and lumber; labor on iron work not included. Contract expires December 31, 1867.
R. N. Gere with Brevet Lieut. Col. C. E. Blunt, major of engineers.	Nov.	26	For furnishing timber and lumber for repair of United States piers at Little Sodas, N. Y., at \$20 per thousand feet, board measure. Contract expires July 1, 1867.
R. N. Gere with Brevet Lieut. Col. C. E. Blunt, major of engineers.	Nov.	26	For placing stones in cribs of United States piers at Big Sodas bay, N. Y., at \$1.25 per cubic yard. Contract expires August 1, 1867.
R. N. Gere with Brevet Lieut. Col. C. E. Blunt, major of engineers.	Nov.	26	For furnishing stone for filling cribs of United States piers at Big Sodas, N. Y., at \$1 per cubic foot. Contract expires June 1, 1867.
R. N. Gere with Brevet Lieut. Col. C. E. Blunt, major of engineers.	Nov.	26	For furnishing hemlock timber and lumber required in construction or repair of United States piers at Big Sodas harbor, N. Y., at \$20 dollars per thousand feet, board measure. Contract expires July 1, 1867.

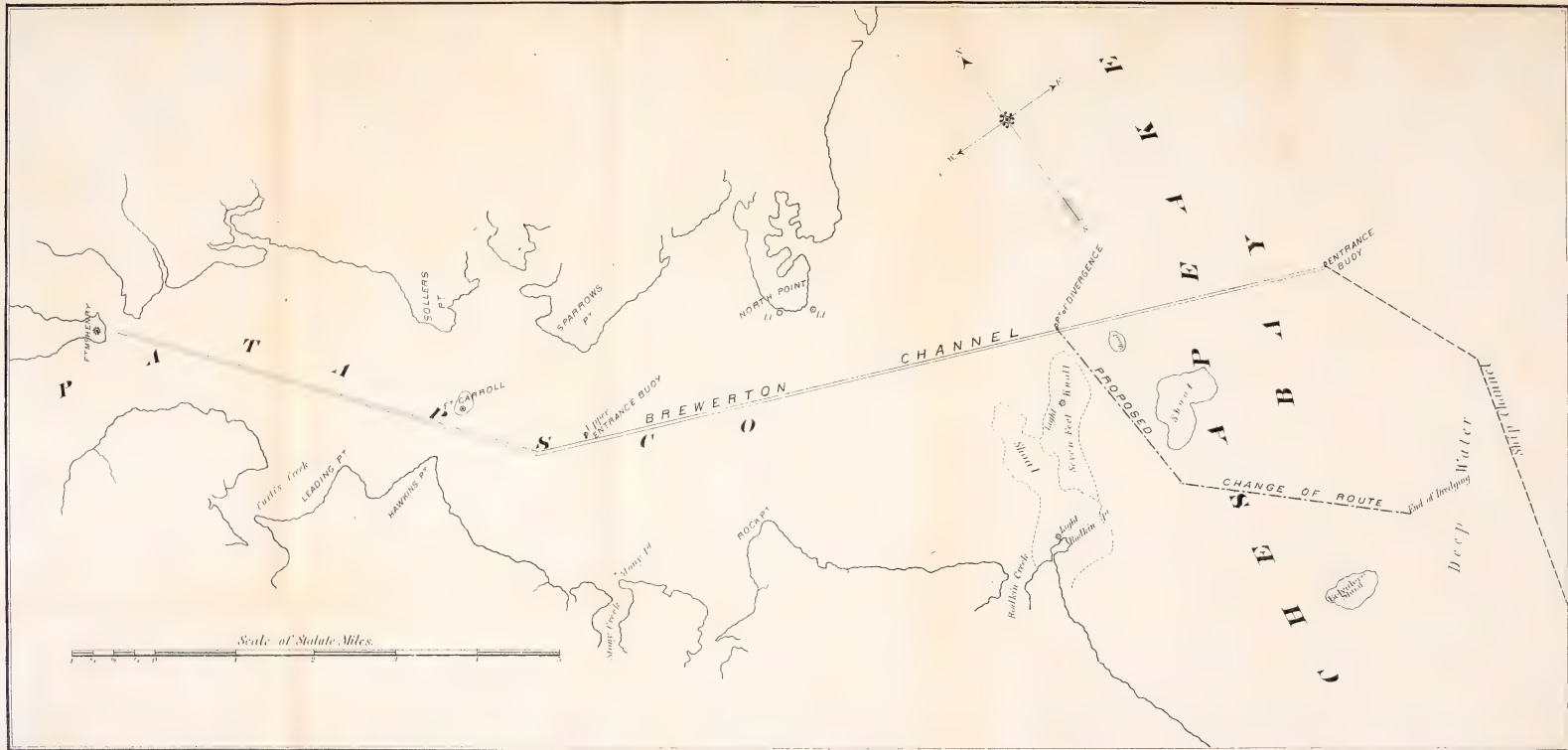
List of contracts by the Engineer department—Continued.

Contractors.	Date.	Objects and terms of contracts.
R. N. Gere with Brevet Lieut. Col. C. E. Blunt, major of engineers.	Nov. 26	For labor required in putting in iron and spikes into the pier or cribs at Little Sodus bay, N. Y., at two cents per pound. Contract expires December 31, 1867.
R. N. Gere with Brevet Lieut. Col. C. E. Blunt, major of engineers.	Nov. 26	For furnishing stone required for filling cribs of United States piers at Little Sodus harbor, N. Y., at \$1 per cubic yard. Contract expires June 1, 1867.
R. Nelson Gere with Brevet Lieut. Col. C. E. Blunt, major of engineers.	Nov. 26	For filling cribs of United States piers at Little Sodus harbor, N. Y., at 98 cents for every cubic yard of stone. Contract expires August 1, 1867.
Dr. Alex. H. Hoff with Brevet Maj. Gen. John Newton, lieutenant colonel of engineers.	Sept. 1	For medical services to officers and hired men of Engineer department at Sandy Hook, at \$100 per month. Contract expires at will of engineer officer in charge or Chief of Engineers.
Routh & Lane with W. Milnor Roberts, superintendent of engineer Ohio river improvement.	Dec. 5	For delivering and putting into rip-rap dams at Captina island, Ohio river, 3,000 cubic yard of stone, at \$1 25 per cubic yard, and for loading and transportation of same, and placing of same, \$1 per cubic yard. Contract expires November 1, 1867.
Routh & Lane with W. Milnor Roberts, superintendent of engineer Ohio river improvement.	Dec. 5	For delivering and putting into rip-rap dams at Logtown bar, in the Ohio river, 5,000 yards, (cubic,) more or less, of stone, at \$1 25 per cubic yard, and for loading and transportation and placing, \$1 per cubic yard. Contract expires November 1, 1867.
Routh & Lane with W. Milnor Roberts, superintendent of engineer Ohio river improvement.	Dec. 5	For delivering and putting into rip-rap dams at Fish Creek island, Ohio river, 4,000 cubic yards of stone, at \$1 25 per cubic yard, and for loading on boats and transportation, \$1 per cubic yard. Contract expires November 1, 1867.
King, Reinhart & Tripp with W. Milnor Roberts, superintending engineer Ohio river improvement.	Dec. 3	For furnishing 3,000 cubic yards, more or less, of stone, and putting into rip-rap dams at Petticoat bar, Ohio river, at \$1 75 per cubic yard, and for loading, transportation, &c., 85 cents per cubic yard. Contract expires November 1, 1867.
Swan & Fenlon with W. Milnor Roberts, superintending engineer Ohio river improvement.	Nov. 1	For furnishing 5,000 cubic yards of stone and putting into rip-rap dams at White's ripple, Ohio river, at \$1 75 per cubic yard, and for loading, transporting, &c., \$1 35 per cubic yard. Contract expires November 1, 1867.
Manfull & Keir with W. Milnor Roberts, superintending Ohio river improvement.	Dec. 4	For furnishing 4,000 cubic feet of stone put into rip-rap dams at Twin islands, Ohio river, at \$1 13 per cubic yard, and for loading, transporting, &c., \$1 47 per cubic yard. Contract expires November 1, 1867.
F. K. Ballou with Brevet Brig. Gen. H. W. Benham, lieutenant colonel of engineers.	Nov. 17	For delivering upon railroad trucks upon the wharf at Great Brewster island, Boston harbor, 2,000 to 2,500 tons of quarry shells or paving stone, at \$2 49 per ton. Contract expires May 5, 1867.
Bodwell, Webster & Co, with Brevet Maj. Gen. H. W. Benham, lieutenant colonel of engineers.	Dec. 27	For delivering on railroad trucks on the wharf at Great Brewster island, Boston harbor, sea-wall facing stone as described in advertisement, at \$1 75 and \$3 75 respectively, per superficial foot of face measure. Contract expires July 31, 1867.
James Loveday with Brevet Brig. Gen. T. J. Cram,	Oct. 6	For furnishing iron for harbor works at Erie, Pa., and Conneaut, Ashtabula, Grand

colonel of engineers.			river, Cleveland, Vermillion, and Huron, Ohio, at prices ranging from 4½ to 7¼ cents per pound. Contract expires June 10, 1867.
W. W. & E. T. Williams with Brevet Brig. Gen. T. J. Cram, colonel of engineers.	Oct.	24	For doing all the dredging required in the channel of St. Clair flats and disposing of the material excavated, at 40 cents per cubic yard. Contract expires December 1, 1867.
W. H. Mott with Brevet Brig. Gen. T. J. Cram, colonel of engineers.	Oct.	2	For doing certain work upon the repairs of the piers at Monroe harbor, Mich., at prices ranging from 16 cents per running foot to \$8 per thousand, board measure, according to description of work. Contract expires November 30, 1867.
J. M. Sterling with Brevet Brig. Gen. T. J. Cram, colonel of engineers.	Oct.	2	For furnishing timber and iron and stone for repair of piers in the harbor of Monroe, Mich., at 29 cents per running foot, and \$20 per thousand, board measure, for timber; 5½ and 7½ cents per pound for iron and spike respectively, and \$8 50 per cord for stone. Contract expires June 10, 1867.
Kenneth McKenzie with Brevet Brig. Gen. T. J. Cram, colonel of engineers.	Oct.	1	For work on repairing United States piers at Conneaut, Ohio, at 13 cents per running foot of timber to \$11 per M feet, board measure, and at \$4 per cord for putting stone in piers. Contract expires September 1, 1867.
Kenneth McKenzie with Brevet Brig. Gen. T. J. Cram, colonel of engineers.	Oct.	1	For furnishing timber and lumber for United States piers at Conneaut, Ohio, at 24 cents per running foot and \$28 per M, respectively; for spikes at eight cents per pound, and for stone at \$10 per cord. Contract expires June 10, 1867.
Kenneth McKenzie with Brevet Brig. Gen. T. J. Cram, colonel of engineers.	Oct.	1	For furnishing white-pine timber and lumber, at 24 cents per running foot and \$28 per M feet, board measure, respectively; and for spikes at eight cents per pound, and stone at \$11 per cord. Contract expires June 10, 1867.
Kenneth McKenzie with Brevet Brig. Gen. T. J. Cram, colonel of engineers.	Oct.	1	For doing the work on the repair of Ashtabula harbor piers, at prices ranging from 13 cents per running foot to \$11 per M feet, board measure, and at \$4 per cord for putting in stone. Contract expires September 1, 1867.
William Nicoll with Brevet Brig. Gen. T. J. Cram, colonel of engineers.	Oct.	10	For doing the work on the repair of the United States piers at Vermillion harbor, Ohio, at prices ranging from 14 cents per running foot of timber to \$8 per M feet, board measure, and for putting in stone, \$2 50 per cord. Contract expires before the close of lake navigation in 1867.
F. D. Ketchum with Brevet Brig. Gen. T. J. Cram, colonel of engineers.	Oct.	20	For furnishing 274 cords of rubble-stone for repair of United States piers at Vermillion harbor, Ohio, at \$10 per cord. Contract ceases June 10, 1867.
Thomas Dunbar & Co. with Brevet Brig. Gen. T. J. Cram, colonel of engineers.	Oct.	12	For dredging the channel of the outer harbor of Toledo, in Maumee bay, and depositing the material, at 40 cents per cubic yard. Contract expires July 1, 1867.
Thomas Dunbar & Co. with Brevet Brig. Gen. T. J. Cram, colonel of engineers.	Oct.	12	For dredging the outer bar of Sandusky harbor, Ohio, and depositing the material, at 75 cents per cubic yard. Contract expires August 1, 1867.
John Brown & Co. with Brevet Brig. Gen. T. J. Cram, colonel of engineers.	Oct.	5	For dredging in the middle channel of Lake George, St. Mary's river, Michigan, at following rates: 48 cents per cubic yard soft material, 90 cents per cubic yard hard pan, \$2 per cubic yard loose rock and boulders. Contract expires November 30, 1867.
John Brown & Co. with Brevet Brig. Gen. T. J. Cram, colonel of engineers.	Oct.	5	if soft material; if hard pan or rock during the following season of 1868, in the judgment of the engineer.
John Brown & Co. with Brevet Brig. Gen. T. J. Cram, colonel of engineers.	Oct.	5	For dredging a channel through the outer bar of the Saginaw river, Michigan, at 75 cents per cubic yard of material dredged. Contract expires November 30, if soft material; if hard, in the judgment of the engineer in charge.

List of contracts by the Engineer department—Continued.

Contractors.	Date.	Objects and terms of contracts.
F. D. Ketchum with Brevet Brig. Gen. T. J. Cram, colonel of engineers.	Oct. 3	For delivering, at Huron harbor, Ohio, timber, lumber, iron, and stone, at 30 cents per running foot for white-pine timber, \$22 per M, board measure, for lumber, 8 cents per pound for spikes, and \$8 per cord for stone. Contract expires June 10, 1867.
W. H. Mott with Brevet Brig. Gen. T. J. Cram, colonel of engineers.	Oct. 3	For work on the piers in Huron harbor, Ohio, at prices ranging from 15 cents per running foot to \$8 per M, board measure, for timber and lumber, and at \$2 50 per cord for putting in stone. Contract expires November 30, 1867.
J. E. & D. E. Bailey with Brevet Brig. Gen. T. J. Cram, colonel of engineers.	Oct. 10	For work on extension of piers of Cleveland harbor, Ohio, at the following rates: For driving piles, per pile, \$5; to shoulder and face same, each, 16 cents; framing and putting in extensions, &c., per foot, 12 cents; for furnishing stone, per cord, \$12 50; for putting in same, per cord, \$2; for framing and fitting, per M, board measure, \$8. Contract expires September 1, 1868.
P. Smith with Brevet Brig. Gen. T. J. Cram, colonel of engineers.	Oct. 10	For furnishing 1,978 round white-oak piles for extension of the piers in Cleveland harbor, Ohio, at \$3 92 per pile. Contract expires June 10, 1867.



SHIP CHANNEL OF THE PATAPSCO RIVER.

LETTER

FROM

THE SECRETARY OF WAR,

IN ANSWER TO

A resolution of the House of January 8, transmitting a report by the Chief of Engineers relative to the ship channel of the Patapsco river.

JANUARY 19, 1867.—Referred to the Committee on Commerce and ordered to be printed.

WAR DEPARTMENT,
Washington City, January 18, 1867.

SIR: I have the honor to transmit herewith a report by the Chief of Engineers of January 18, 1867, containing the information called for in the resolution of the House of Representatives of January 8, 1867, relative to the ship channel of the Patapsco river, near Baltimore, Maryland.

Very respectfully, sir, your obedient servant,

EDWIN M. STANTON,
Secretary of War.

Hon. S. COLFAX,
Speaker of the House of Representatives.

ENGINEER DEPARTMENT,
Washington, January 18, 1867.

SIR: I have the honor to acknowledge the receipt of the resolution of the United States House of Representatives of the 8th instant, calling for "all information in possession of the War Department as to the cost of completing the ship channel of the Patapsco river, near the harbor of Baltimore," &c., and beg leave to transmit herewith a copy of a letter from Brevet Lieutenant Colonel W. P. Craighill, major of engineers, who has charge of the work in question, which affords, it is believed, all the information required.

Very respectfully, your obedient servant,

A. A. HUMPHREYS,
Chief of Engineers.

Hon. E. M. STANTON,
Secretary of War.

WASHINGTON, *January 15, 1867.*

GENERAL: I have to acknowledge the receipt on the 12th instant (Saturday) of your letter of the 11th instant, referring to me for report a resolution of the House of Representatives of 8th instant, in the following words: "That the Secretary of War be and is hereby requested to transmit to the House all information in the possession of the War Department as to the cost of completing the ship channel of the Patapsco river, near the harbor of Baltimore city; and particularly whether the proper estimates and surveys authorized and directed by an act of the last session of Congress have been completed."

In the annual report transmitted to the Chief of Engineers with my letter of September 4, 1866, the suggestion was made, for reasons specified therein, "that instead of continuing the deepening of the Brewerton channel in a straight line to the entrance-buoy, where it strikes deep water, it might be better to turn the channel to the southward, causing it to pass just to the east of the Seven-foot Knoll light. Experience has shown that the lower portion of the Brewerton channel is affected injuriously by the current of the Susquehanna river sweeping across it. The new direction would, on the contrary, probably be benefited if affected at all by the current."

Estimates were submitted with that report for channels by the old and proposed routes, in each case for a depth of twenty-two feet at mean low water, and for one hundred and fifty feet and two hundred feet in width.

A resurvey was deemed indispensable to enable a correct judgment to be formed as to the propriety of changing the direction of the proposed ship channel. My own engagements and those of my immediate assistants were such as to cause an application to be made to the office of the United States Coast Survey for a detail of officers to make the required survey under my direction. This request was granted, and the survey commenced as soon as a party could be placed at my disposal. The river was closed by ice earlier than usual, and the survey necessarily suspended before its completion. However, the examination was very thorough from the mouth of the river to a point opposite Fort Carroll. The examination of the portion from Fort Carroll to Fort McHenry is less important, as the water is better and less liable to change its depth.

The maps of the survey are incomplete, but in a condition to be the basis of new and reliable estimates, which are hereto appended. It will be observed that the estimates are for both the old and the proposed routes, and in each case for a channel of twenty-two feet in depth and one hundred and fifty feet in width, and for a channel of twenty-two feet in depth and two hundred feet in width.

First route.

Channel 150 feet wide and 22 feet deep at mean low water:	
From Fort McHenry to upper entrance buoy, just below Hawkins Point, 205,000 cubic yards, at 30 cents.	\$61, 500
From upper to lower entrance buoy, old route, 344,000 cubic yards, at 30 cents.	103, 200
	<hr/>
	164, 700
	<hr/> <hr/>

Second route.

From Fort McHenry to point of divergence of old and proposed routes, 420,000 cubic yards, at 30 cents.	
New cut proposed, 75,000 cubic yards, at 30 cents.	\$126, 000
	22, 500
	<hr/>
	148, 500
	<hr/> <hr/>

Third route.

Channel 200 feet wide and 22 feet deep at mean low water :	
From Fort McHenry to upper entrance buoy, just below Hawkins Point, 273,000 cubic yards, at 30 cents	\$81, 900
From upper to lower entrance buoy, old route, 711,000 cubic yards, at 30 cents.	213, 300
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	295, 200
	<hr/> <hr/>

Fourth route.

From Fort McHenry to point of divergence of old and proposed routes, 563,000 cubic yards, at 30 cents	\$168, 900
New cut proposed, 100,000 cubic yards, at 30 cents.....	30, 000
	<hr/>
	198, 900
	<hr/> <hr/>

It thus appears that the channel 150 feet in width by the new route would be cheaper than by the old route by \$16,000. A channel 200 feet in width by the new route would be cheaper than by the old route by \$96,000.

The channel by the new route 200 feet wide would cost but \$50,000 more than a channel 150 feet wide by the same route, and as a channel 200 feet wide by the new route would be cheaper by \$100,000 than by the old route, and as a channel 200 feet wide by the new route would cost but \$34,000 more than a channel 150 feet wide by the old route, it seems altogether advisable to adopt the channel 200 feet wide by the new route.

It is recommended, therefore, that Congress be asked to appropriate \$200,000 for the improvement of the Patapsco river below Fort McHenry, or it might be better to ask for the necessary sum in annual instalments, the first and second to be each \$75,000, and the third to be \$50,000. Not more than \$75,000 can be advantageously expended in one season. The expenditure of the first and second instalments would give a channel 150 feet wide by the new route, and the remaining \$50,000 would complete the channel of 200 feet wide.

A sketch is enclosed showing the directions of the old and new routes.

When the maps of the late survey are completed, copies will be furnished to the Chief of Engineers.

The resolution of the House of Representatives is returned herewith.

Very respectfully, your obedient servant,

WM. P. CRAIGHILL,
Major of Engineers, Bvt. Lt. Col.

Brevet Major General A. A. HUMPHREYS,
Chief of Engineers.

INSPECTION BY GENERALS RUSLING AND HAZEN.

LETTER

FROM

THE SECRETARY OF WAR,

IN ANSWER TO

A resolution of the House of January 3, transmitting reports of inspection made by Generals Rusling and Hazen.

JANUARY 19, 1867.—Laid on the table and ordered to be printed.

WAR DEPARTMENT,
Washington City, January 15, 1867.

SIR: I have the honor to transmit herewith a letter from the Adjutant General of January 15, covering reports of tours of inspection made by Generals Rusling and Hazen, called for by a resolution of the House of Representatives of January 3, 1867.

Very respectfully, sir, your obedient servant,

EDWIN M. STANTON,
Secretary of War.

Hon. SCHUYLER COLFAX,
Speaker of the House of Representatives.

WAR DEPARTMENT, ADJUTANT GENERAL'S OFFICE,
Washington, January 15, 1867.

SIR: In compliance with your instructions of the 3d instant, I have the honor to submit herewith the following papers called for by resolution of the House of Representatives of the same date:

1st. Copy of report of Brevet Major General W. B. Hazen, acting inspector general, department of the Platte, dated October 16, 1866, from the records of this office.

2d. Letter of the Acting Quartermaster General, of this date, transmitting copies of reports, as far as received, of Brevet Brigadier General James F. Rusling, inspector quartermaster's department, of inspections made by him during the past season on a tour westward from the Mississippi river to the Pacific coast.

I have the honor to be, sir, very respectfully, your obedient servant,

E. D. TOWNSEND,
Assistant Adjutant General.

Hon. E. M. STANTON, *Secretary of War.*

CAMP DOUGLAS, UTAH TERRITORY,
October 16, 1866.

Having completed the duties contemplated by special orders from headquarters department of the Platte, directing me to inspect the mountain district and report upon that and other points, I now furnish the following as my final report, which will close my duties as acting inspector general of the department:

COUNTRY.

After leaving Omaha the soil of the Platte valley is highly productive for nearly two hundred miles, yielding abundantly with the ordinary methods of American farming. At about that point, or near old Fort Kearney, the soil becomes thin and weak and the atmosphere dry, and continues so all the way to the dividing ridge of the Rocky mountains, and west of them in Montana, Idaho, and Utah, so far as I have seen.

Of this entire country one half may be considered of no value, the other half, for pastoral purposes, of about one-tenth the value of good grazing land in the northern States. Of this last half, on an average of about one acre in one thousand, can be made abundantly productive by irrigation and in no other way. These last points are found near springs under the mountains, or the immediate borders of most of the streams, and in the valleys of Sun, Jefferson, Madison, and Gallatin rivers. Each of these streams have fine rich valleys of from one to five miles in breadth, and from fifty to one hundred miles in length, all of which can be irrigated and cultivated. In the Great Salt Lake basin, along the base of the Wasatch mountains, and in the narrow valleys of the western slope of these mountains is good cultivable land, with abundant springs for irrigation. This section is about five hundred and fifty miles in length; and if all the good land could be placed in one piece, it would have a breadth for the entire length of not more than ten miles. These lands are nearly all occupied by the Mormons, making a population of about one hundred thousand.

Three-fourths of all the country passed over is made up of mountain ranges. Wild grasses of various qualities grow thinly over nearly all of it. Scattering cottonwood trees, occasionally thickening into grasses, border the streams, and on the sides of some of the mountains pine timber grows of a good quality.

Whatever mineral wealth the country may have can only be known when it is developed. It has large amounts of coal and some iron. Its precious metals, as at present produced, are damaging to the country at large, as they draw here ten times as much capital and labor as finds profitable employment.

The country has little value, and can never be sold by government at more than nominal rates. It will in time be settled by a scanty pastoral population. No amount of railroads, schemes of colonization, or government encouragement can ever make more of it.

ROADS.

The roads in all these Territories consist principally of a few main lines traversing the entire belt from the Missouri river to the Pacific, and one from Benton south through Montana, Utah, and the Mormon settlements towards the Colorado. These are all excellent natural roads, except the one from Benton south, where chartered companies have expended large sums in improving them and building bridges, exacting tolls for their use. Although they have been a great public benefit, their rates are excessive. There are toll ferries over the Big Horn and Yellowstone, but government teams and horses are not charged.

I have, respectfully, to recommend the establishment of a wagon road from some point on the Missouri river near the mouth of the Muscle Shell, to the Powder River road, near Fort C. F. Smith, with a branch keeping up the north side of the Yellowstone to the point where a new post should be established

next year. The routes indicated on the map enclosed are practicable, but should be passed over by the officer in charge of the work before selecting the best. I had not time to make these selections, only ascertaining positively the practicability of the route. My own route did not extend to the mouth of the Muscle Shell by some forty miles, and I have been informed by intelligent citizens that, on account of the bad lands, it would be much better to start from a point some thirty or forty miles above the mouth of that stream. All this should be left to the discretion of the officer having the work in charge, after seeing all the routes. It will require a ferry to cross the Yellowstone. It is about 506 feet wide, and swift enough to carry the boat across by the current. A detachment will be necessary at the crossing. The river is bordered with the finest growth of cottonwood I ever saw. The boat could be built on the spot by sheathing the bottom, to be made of hewn slabs, with paulin, and putting in a strong false bottom. The tackling, cable, &c., should be sent up from below.

Opening this road up to the Yellowstone towards Gallatin would be of great value to the people of Montana. Gallatin would then be reached within 250 miles from safe and certain navigation on the Missouri, as near as from Fort Benton, and without the dangers of the rapids.

I have strongly to recommend the opening of these roads by troops. The immense appropriations of money by Congress for these western roads show no fruits. It is all dissipated in salaries and pay of men who travel across the country, but never stop to do any labor.

I have yet to see the first indication of any work expended on roads by any of the numerous parties sent out by Congress with large appropriations of money to build wagon roads.

I have to recommend Lieutenant and Quartermaster W. H. Keeling, thirteenth infantry, now at Camp Cook, as a proper person to locate and execute this work. Its proper accomplishment will depend very much upon who is detailed to carry it out. If he could receive his instructions so as to move with the early spring with two companies, everything could be made ready for receiving and forwarding the next year's supplies to the upper posts. The distance from Fort C. F. Smith to the Missouri is about 150 miles. The road need not be longer. Parties of responsibility have assured me that freights need not cost more than six cents per pound from St. Louis to this point, (Muscle Shell.)

There is a deception practiced upon the people going overland to Montana that should be made public. The parties interested in the Powder River road have published and erected a guide-board where this road branches from the old South Pass road, that it is but 425 miles from that point to Virginia City by their route, when, in fact, it is — miles measured by the odometer. Every one interested in this country systematically deceives everybody else with regard to it.

For the use of the officer detailed for this work I enclose a copy of my diary, marked A, from the time I left Fort C. F. Smith till I left the Muscle Shell.

POSTS AND DISTRIBUTION OF TROOPS.

The posts now established in the mountain district are correctly located, and with another near the Big Bend of the Yellowstone, the route will have all the posts it will be advantageous to establish. In addition to this, the commanding officer of the district should be directed to establish block-houses, to be temporarily held, on one of the forks of the Cheyenne, on Crazy Woman, and on one of the forks of the Tongue river. The commanding officer should use his discretion as to all minor points of these locations. Two companies are sufficient for each of the four posts and the block-houses nearest it, and in case of active operations the posts could be reduced to thirty men without risk.

Cavalry could be best disposed at the post nearest Gallatin on account of for-

age, which can be obtained there in abundance and at moderate cost. The animals might, in fact, be subsisted at the valley at times of inactivity; but I would not recommend the permanent posting of any troops at Gallatin or west of there. At Sun river I would recommend the establishment of a post of two companies. It is a good point for cavalry. The road from the mines to Benton is a very important one. The Indians leave that section in the summer and go north, but in the winter they are in the habit of coming down, killing and burning everything. If cavalry is to come here for service, I would recommend the purchasing of half-breed horses, as they can subsist without forage on the native grasses of the country. The American horses are of no service without grain. I tried them from C. F. Smith to Benton, as I have frequently done previously. They set out thin and weak, and after three or four days are of no use. Abundance of half-breed horses can be bought in Virginia City and Salt Lake city, by contracting early, at about \$70. The Mormon church has now nearly a thousand on one of the islands in Salt lake, that Major Grimes, quartermaster of this post, informs me can be bought. The difference in usefulness in favor of the half-breed horse is worthy of earnest attention. If these horses are furnished the cavalry, either Fort Phil. Kearney or C. F. Smith would be good cavalry posts, but not otherwise.

As to the troops on the Upper Missouri, I am of the opinion that the posts should all be broken up. They are now very remote, and supplied at great expense. They are not situated near the line of any road, nor at the beginning or terminus of any now built, or likely to be in the future, if we except Fort Sully. They give little or no protection to the navigation of the river, and can never become nuclei of colonization from the utter poverty of the country.

The post at the mouth of the Judith is at a point where neither white nor red men ever go, and its location is the subject of ridicule with every man I have met in the Territories.

Enough of the material could be floated down on rafts in the spring to establish warehouses and quarters for two companies near the Muscle Shell. Then if a detachment of two companies were sent up the river in the spring, with early navigation, to return with the latest, I would consider the river much more advantageously occupied than at present. This would release a large force of troops for active purposes.

I am confident our troops are too inactive. They should be so disposed as to give the greatest amount of vigorous field service. I would place no troops in the mining regions, as miners are better Indian fighters than soldiers, are numerous, and always armed and organized for defence.

SUPPLIES.

The route for supplying the new post now established has been already discussed.

There are always large trains in the upper country, particularly in Gallatin valley, that could be advantageously employed to take supplies from the Upper Missouri to their destination. The navigation of the Yellowstone for supplying is worthy of further and full attention.

Flour of a good quality can be bought in Gallatin valley for nine cents per pound, and beef for eighty dollars per pair for oxen that a few months' grazing would make excellent beef. Good flour here can be had for seven cents.

Hay in abundance can be cut at all points I have visited, except Reno. Small grain is too high to furnish in large quantities for animals, except in cases of emergency; at Benton I paid twenty cents for corn, at Helena fifteen cents, and at Virginia City twelve and a half cents for barley, and they cannot be expected cheaper in years to come.

This point probably furnishes grain at lower rates than any on this side of the Missouri. Oats at seventy-nine cents per bushel. The stories of fine grasses

where animals can winter and keep fat along the mountains are false ; for laboring animals in herds they do well in summer, but must be provided for in winter ; my own animals, and all I saw in trains, commenced falling away as soon as they left the Platte valley.

INDIANS.

The ideal Indian of the popular mind is found only in poetry and Cooper's novels. The Indian who now inhabits the plains is a dirty beggar and thief, who murders the weak and unprotected, but never attacks an armed foe. He keeps no promises, and makes them only the more easy to carry on his murder and pillage. He knows no sentiment but revenge and fear, and cares only to live in his vagrancy. All efforts to better his condition have and will but add to his debt of ingratitude, and prove unproductive of any good. The fact that one in a thousand have been civilized proves nothing, neither does it that our people can sometimes become so low and deceitful and murderous as the Indian. The white man owes the Indian nothing. He is in the way of the evolutions of progress, and when government pays what is to him a reasonable compensation for his title to the territory, or for privileges in it, the debt is as perfectly cancelled as when a corporation pays the assessed value of the site of a public school. The Indian department has pampered these rascals, armed them, equipped them, and yielded to their demands, till many of them neither fear the government nor believe it has the ability to defend itself.

The Indians of the mountain district are of this class ; they have murdered during the season about forty people, besides stealing a large amount of property. I have but one recommendation to make for all Indians : Allot to each tribe, arbitrarily, its territory or reservation, and make vigorous, unceasing war on all that do not obey and remain upon their grounds. When once thoroughly whipped there will afterwards be no trouble with them. Prohibit all sales or issues of arms and ammunition, and imprison all known to violate the law. If necessary, give them food and clothing, but no implements of war.

It will be said that this is impracticable. It is not so. With the troops that can be spared from active service, which, in my opinion, should be three fourths of all in the department, the haunts of all the Indians can be visited each season, dealing war in their own fashion on all villages found off the reservations. Our troops are too inert ; they should be more actively employed, and all the friendly Indians possible for this service. This can certainly be carried out, if adopted, and put in the hands of determined men, who will try honestly to do their duty.

Expeditions should take no lumbering wagon trains nor artillery, but move with pack mules, say one for each four men, to carry blankets and food for infantry, and only food for cavalry. If cavalry is used, only the half-breed horses should be taken, for although American horses can be used for cavalry without grain on the native grasses, yet after four or five days, if previously weak, as I have always found them, they are not as effective and cannot march so far as infantry that only carry their arms. These expeditions should be at all times ready to make forced marches, and not be held back by jaded horses. Such expeditions can, with due tact and energy, nearly always surprise and destroy the villages. I speak from personal experience, having in Texas, in 1858 and 1859, on five successive occasions succeeded by this means in surprising Comanches and Apaches. We invariably first found the Indian and attacked him before he knew of our presence. It will be of no use to send these expeditions under men who are not willing to carry them out under circumstances the most discouraging and laborious, without tents, with a single blanket, and often on insufficient food, and who will fight on every occasion and attack at the instant.

I am confident that this course in a few years would, if adopted as the general Indian policy, solve the Indian troubles, and we would only have him on our

hands as a peaceable pauper, in place of a thieving, murdering one, and at half the cost. The present system is but play with crime. The Indians who stole the first lot of mules from Reno, when pressed, left behind a mule packed with the goods just received from the treaty commissioners at Laramie.

In 1859 I had the misfortune to be seriously wounded by Indians, and among our captures were two Lancaster rifles, not long before issued by the Indian bureau.

I report only from personal knowledge and close study of the Indian through several years of service with and against him. It is time that murder of innocent people for a false sentiment should cease.

QUARTERMASTER'S DEPARTMENT.

This department I sometimes found in very inefficient hands and badly administered. The piles of corn costing half a million of dollars and rotting down at Julesburg has already been reported.

I saw too little of Colonel Dandy's performance of duty to form any opinion of the manner in which it is executed.

At Reno I found the property utterly uncared for, and the quartermaster, Mr. Link, very loth to take charge of it, as he had not receipted for it and did not want to.

The affairs of Captain Brown, at Fort Phil. Kearney, I found but little better. These things have all been previously reported. At Camp F. Smith and Camp Cook I found officers of this department of special ability and activity. Also at this place I find Brevet Major Grimes, whose administration, without any formal inspection, impressed me very favorably.

I found, as a general thing, the department was paying for transportation for more miles than the actual measured distance from Sedgwick to Laramie, about eight miles, and between other points in proportion. This, on the immense freights sent over these roads each year, amounts to a very large sum, and many thousand dollars would be saved by sending officers over them with men to straighten them in many places and accurately measure them.

I find that at Benton the average cost of freights received there this season has been ten cents per pound, while those at Camp Cook, one hundred miles below, have cost the government, on an average, eighteen cents per pound. This, perhaps, is accounted for in part by detentions, but it does not appear to sufficiently account for this difference, which, upon the immense freights sent up with the 13th infantry, is a very large sum.

I find numbers of guides and mail-carriers employed at the different posts; at the headquarters of the mountain district five, at rates from \$150 to \$300 per month. The mail-carriers I found going over the roads escorted by twenty men, and sometimes furnished with ambulances.

The guides I found to be old mountaineers, who were supposed to know something of the country. Their knowledge is meagre and indefinite, their ideas of distance totally at fault, and, with the present maps of the country, any intelligent officer is much better off without them than with them.

If government looks on these men as pensioners it misplaces its bounty, as nearly all the money paid them is spent in profligacy. I have to recommend the discharge of all these men, except one interpreter at each post, who can also act as guide.

The mail should be sent over the main travelled roads under a safe escort; it but encourages the Indians to send it skulking along through the ravines by night.

I found the mechanic shops, (if so they can be called,) at all the posts but this, worked by enlisted men, badly organized, and with a very inferior order of skill; one heard nothing but coarse oaths, and could procure no repairs, but some damage would be inflicted more fatal than the one remedied, while the waste of material was everywhere profligate. I find here that the work is done

promptly and skilfully, while everything is orderly and quiet, with a sufficient saving of materials to pay the cost of wages.

I have to recommend that a few hired artisans be allowed at each post; their pay will be saved in material, and their work will be doubly efficient. If Colonel Carrington fails with his mills, it will be from the inferiority of his engineer, whom he picked up on the way.

I also found at Fort Phil. Kearney a very old and incomplete engine and saw-mill, and at Camp Cook a large amount of old tools that would not sell in any market for half the cost of freight paid to send them out.

MINES.

Nearly all the surface mining in Montana has been worked through by the first discoverers or by the adventurous miners who will not work for less than \$15 per day. They are yet to be worked by the more careful and economical class who will work for half that sum. They will be worked again by Chinamen, who are already appearing on the ground.

Quartz mining has not yet been developed, and won't be for a year or two to come. But little is known only that surface indications and some short shafts have given great encouragement, and that very many mills have been erected, nearly all to ruin the parties interested in them, some from one cause and some from another. But the mines will be occupied and worked by a large number of people, probably permanently.

UTAH.

I have seen too little of Mormonism to give definite opinion about it. I have met Brigham Young, General Wells, and nearly all of the functionaries. I believe them well enough disposed towards the government to keep them out of trouble; that, in their good sense, they will at present commit no act that will compromise their privileges. I believe that they fanatically and implicitly believe that they are the latter day saints of Christ, are undergoing persecution, and will finally be freed from the restraints of our government. I have no doubt that whenever they believe themselves strong enough they will attempt such freedom. They preach of our downfall every Sunday in the pulpit, and believe it will be our punishment for persecuting them. If the present only tangible cause for trouble (polygamy) is likely to bring on government interference, they will conveniently get a revelation to dispense with it.

They are an ignorant, industrious, and obedient people. I think theirs is the only purely theocratic government in existence. It may be considered complete in all its ramifications, and our own as concerns them all excrecence. It is, in my opinion, indispensable that a respectable military post, in command of a discreet officer, be kept here, and it appears its establishment can safely look to more permanence than any other post in the west.

Having gone over all the ground that naturally comes within the scope of this report, in addition to full reports from the various posts before sent, I now close it and my official connection with the headquarters department of the Platte. In doing so, I desire to express my warmest thanks and kindest recollections for uniform consideration to my wishes to both General Cooke and yourself.

Very respectfully, your obedient servant,

W. B. HAZEN,

Brevet Maj. Gen., Act'g Inspector Gen. Dept. of the Platte.

Brevet Major H. G. LITCHFIELD,

A. A. Adj't General, Department of the Platte.

Official :

W. A. NICHOLS,

Assistant Adjutant General.

Official copy :

E. D. TOWNSEND,

Assistant Adjutant General.

QUARTERMASTER GENERAL'S OFFICE,
Washington, D. C., January 15, 1867.

SIR: In compliance with your orders of the 3d instant, I have the honor to forward herewith copies of the official reports of Brevet Brigadier General James F. Rusling, inspector quartermaster's department, of inspections made by him during the past season on a tour westward from the Mississippi river to the Pacific coast.

Reports of his inspections as far west as Fort Boisé, Idaho Territory, have been thus far received at this office.

Very respectfully, your obedient servant,

D. H. RUCKER,

Acting Quartermaster Gen'l, Brevet Maj. Gen'l U. S. A.

Hon. E. M. STANTON,

Secretary of War, Washington, D. C.

REPORT OF BRIGADIER GENERAL JAMES F. RUSLING.

OFFICE INSPECTOR QUARTERMASTER'S DEPARTMENT,
Fort Leavenworth, Kansas, August 6, 1866.

GENERAL; I have the honor to submit the following report relating to the depot and post at Fort Leavenworth, Kansas

Arriving here a week ago, I have been very busily engaged ever since in looking into affairs here. The post of Leavenworth, I find, was established in 1827, but was abandoned in 1828 and then reoccupied again in 1829, since which date it has been permanently held. It consists, in brief, of 6,840 acres of land, a government reservation, of which 936 acres are woodland, lying on east side of the Missouri, and balance, 5,904 acres, are principally arable land, lying on west bank of the same river. The public buildings, consisting of offices, quarters, barracks, storehouses, stables, &c., occupy high and rolling ground near the northern end of this—the reservation extending south towards the city of Leavenworth. The ground occupied by these, including the corrals, forage yard, levee, cemetery, &c., probably comprises about one thousand acres. This is all now open and unenclosed, except a small area of some three acres in the centre of the garrison buildings proper, the parade ground, and the enclosed corrals, forage yard, &c. The two government farms on the reservation take up about twelve hundred acres more. One of these, the Bottom farm, of about five hundred acres, is only enclosed by an outside fence; the other, the Prairie farm, of about seven hundred acres, is enclosed and pretty well divided up with fences. A survey and map of the entire reservation is on file in the office of the depot quartermaster here, and he informs me that a copy has been furnished your office. Plans of all the buildings are now being made, and copies will be duly forwarded to you.

Fort Leavenworth has hitherto been a point of prime importance west, as the place of departure for all supplies required by the plains, &c. Supplies were accumulated here by the Missouri river, and then shipped west by wagon trains to Santa Fé, Denver City, Salt Lake, and all intervening posts and their dependencies. After a full and careful study of the facts while here, I am of the opinion that it must continue to be the great depot for this region. My instructions directed me to look well into this, and to report on the comparative merits of Leavenworth, Nebraska City, and Omaha, as points for departure. After an examination of the distances and other facts, and free conversation with officers here and old employes who have made the subject their study for years, I am persuaded that Nebraska City has no substantial advantages, on the whole, that Omaha and Leavenworth do not have, while they have many that Nebraska City lacks. It is true that Nebraska City is nearly one hundred miles further west than Leavenworth, but to reach it requires more than one hundred miles by river, and then you have neither public storehouses nor a railroad, while Leavenworth has both. So, too, Omaha has no public storehouses or like facilities, while everything needed is here. How well Leavenworth is equipped with these no one will imagine till he come here. There are quarters and barracks for nearly three full regiments, including the new attaché barracks, as they are called. There is stabling for fully twelve hundred animals, exclusive of very extensive corrals. There are storehouses and forage-sheds in abundance, sufficient to accommodate the supplies for ten thousand men for one year, a greater number than will probably ever depend on the Missouri as a base of supplies. To this point the river is open from St. Louis usually from March 1st to December 1st, and in this time all necessary stores for a year should be accumulated here. What have been omitted may still reach here by the Union Pacific railroad from St. Louis at all seasons of

the year. From this point west, the Union Pacific road will be through to Fort Riley by September first, a distance of 152 miles, and from there will push steadily westward as fast as circumstances will allow. By this, of course, shipments may go west as fast as it is completed. My judgment, therefore, is, that Leavenworth should be maintained as the great depot for the west, wiping out St. Louis as far as practicable, and Omaha be established, as far as necessary, as a point of supplies for the posts on the Northern Pacific road. Both railroads are required to unite at a point fifty miles west of Denver by recent act of Congress, but both will have to be used up to there. The supplies for Omaha should reach there mainly by river during the boatable season, because of cheaper transportation, and should be forwarded thence by railroad as far as practicable. The same as to Leavenworth. But Leavenworth, in my judgment, should be kept as the great depot: first, because of its geographical position; and second, because of facilities already here. I think a study of the map will confirm these views. Why Nebraska City has been selected as a point for departure this year, I am unable to comprehend from what I see and hear here on the spot. It has neither storehouses nor railroads, and the difference in distance can make but little, if any, difference in the total cost, all things considered. Steps should be taken to abandon it immediately on the close of this year, and to concentrate everything at Omaha and Leavenworth, and so I recommend.

I have examined into the question of shipping the supplies from the termini of the railroads, instead of here and Omaha, and think it impracticable this season: first, because of the short distances reached by the roads thus far; second, because the bulk of supplies required have already gone forward; and third, because of the want of accommodations for supplies, as yet, at the termini of the roads. But all this should change next spring; and can, at a large saving to the government, as I think. The plan I suggest is this: to send forward a depot quartermaster and station him at the terminus of each road, wherever that may be, early in the spring. Give him tents, teams, mechanics, laborers, and lumber for temporary sheds, or storehouses, and require him to push on from month to month, as the road advances, the same as depot quartermasters in the field during the war established and changed their depots. His stock on hand should never be large, but should be replenished from time to time from Leavenworth or Omaha, which he could strike by telegraph, as supplies were wanted. In other words, I would institute the same plan precisely as worked so successfully during the Atlanta campaign, when Nashville and Chattanooga were the great depots, and Dalton, Kingston, Marietta, &c., were the shipping depots, and supplied from day to day, as Sherman indicated. I see no difficulty whatever in doing this, and the saving to the government, by the constantly shortening distances over which costly wagon freights are to be paid, commends it to my judgment. To make great depots of Forts Riley and Kearney, on their respective routes, seems to me very unadvisable, for the cost of erecting the necessary buildings, &c., will be very large, and the whole will be useless as the railroad advances, when Riley and Kearney, of course, will become mere passing posts. At the junction of the two roads beyond Denver, whenever that is reached, I think a main depot should be established; also at Fort Ellsworth, on the eastern division of the Union Pacific road, where the Santa Fé route branches off. But with the exception of these two depots, both of which should be moderate, I recommend that no large depots be established on either road. The reasons are obvious, after what I have said above.

I.—OFFICERS.

I have found on duty the following officers: Colonel Joseph A. Potter, chief quartermaster of depot, in charge of disbursements, and of the great bulk of everything; Lieutenant Colonel Fred. Myers, quartermaster, headquarters of Major General Pope, commanding department of Missouri, but now absent on leave; Captain C. A. Alligood, military storekeeper in charge of clothing, camp and garrison equipage, and First Lieutenant William Mitchell, third infantry, and acting assistant quartermaster post, quartermaster proper.

I judge them all to be excellent officers; but I think Captain Alligood could be dispensed with, should his services be required elsewhere. So as to Colonel Myers, whom I recommend to be relieved immediately. I have made no inspection of his affairs, because of his absence east; but he has two clerks here, under pay, footing up some \$250 per month, as I am informed. What petty services to department headquarters he renders can surely all be performed by the depot quartermaster here, and thus the total cost of his establishment be saved to the government. The chief quartermaster of this department, as well as military division, you are aware, is Brevet Brigadier General Easton, stationed at St. Louis, Missouri; and surely he is able to conduct its affairs, in times like these, without a *fifth wheel* on the headquarters staff, the whole of whose duties must be quite inappreciable. I am not aware how Colonel Myers has drifted into this position, but I should think it very distasteful to an officer of his ability and energy.

The division of duties here into depot and post work I think very necessary. The two were merged some months ago, but they have again been separated, as I think, wisely. Some confusion and occasional conflict, as to the relative rights and duties of each, have been reported to me, and I suggest it would be well to settle the matter authoritatively by an order from your office. Existing orders are tolerably explicit, but they are old, (1859-'60,) and

things have changed so since then, that the post commander overrates, or at least misconceives his authority. I have spoken to General Hoffman, commanding post, on the subject, and I regret to say his views seem inadmissible in view of existing orders relating to depots like this. The same is true of General Easton, chief quartermaster of this military division, to whom, however, I think the depot should report. To prevent complications and embarrassments hereafter, I therefore recommend that proper orders be issued from your office, or that of the Adjutant General, defining the relative rights and duties of the chief quartermaster and post commander here, and all others concerned.

II.—CLOTHING, CAMP AND GARRISON EQUIPAGE.

The supplies of this division, in charge of Captain C. A. Alligood, military storekeeper, are very large for Leavenworth. He has two large stone warehouses filled, in the main, and another frame one well occupied. In addition, he had a pile of knapsacks and haversacks, stowed out doors, under paulins, which I directed to be removed to a vacant building, of which there are many at the depot, as will be seen by reports herewith. His stock foots up some 6,000 infantry suits, and over 20,000 cavalry suits, substantially. In addition to this, the summer supply, in the main, has gone forward; and the posts on the plains are believed to be well stocked now. Much of what is here, indeed, has been received back from outlying posts, where an excess had been accumulated last year or before. The forces depending on Leavenworth are estimated here at about 6,000 men, so that no more clothing, &c., will be wanted here, except to supply some minor deficiencies, for a year to come, in my opinion.

I transmit statement of aggregate troops, marked A. The cavalry clothing, as will be seen, is far in excess, even if the whole cavalry of the army is to be supplied from here. Yet the serviceable might as well remain in Leavenworth, as the storage here is both good and ample, and I so recommend. The unserviceable I recommend to be sold here immediately.

The quality of the supply is good, though not up to the old standard. No complaints, however, were reported to me. Captain Alligood takes good care of it, and the arrangement of his storehouses is about perfect. He reports that many of the goods arriving here have to be overhauled, but this is to be expected from the long journeys made. Before shipping westward, of late, he has unpacked and baled all his goods, and I would call attention to a new process of his, whereby he makes the bales the exact width of the "prairie schooners," as the great wagons of the freighters here are called. The advantages of this are evident, as the bales received from the east are too short to make up one tier, and two of them too long. A report of the exact process, &c., please find herewith, marked B.

Would it not be well to direct all bales sent west to be made of the same measurements on the score of economy as well as transportation? The system of baling instead of shipping from here in boxes is obviously the true one, because of its greater economy. A wagon will transport at least one-third more in bales than boxes, as I have ascertained by experiment here. The only objections are, first, damage to the clothing by wearing of holes in bale-cloth; and second, the loss of the lumber of the boxes to receiving quartermaster, it being valuable to him at isolated posts, for various purposes. A rough calculation, however, will show that these items are slight compared with the great saving of transportation, and necessary lumber can be furnished officers cheaper in other ways.

III.—QUARTERMASTER STORES, ETC.

As will be seen by reports of Colonel Potter herewith, the supply of these is very large. The quality, as a rule, is very good. The stock is so large that all his warehouses proper are full, except his levee receiving warehouse, which is comparatively empty. I recommend that the whole of the serviceable be retained here for current use and issue, but that no more be sent until his present supply be much reduced. His stock on hand will suffice fully for twelve months to come, with slight additions, and of many articles he has a two or three years' supply. The unserviceable I recommend to be sold here immediately.

IV.—RAIL, RIVER, AND LAND TRANSPORTATION.

The rail transportation here as yet amounts to little or nothing; a full discussion of it, however, has already been given. The river transportation just now is light, though considerable stores were shipped to Nebraska City for re-shipment over the plains earlier in the season. The land transportation, however, I deem excessive, and recommend its immediate reduction. It consists of sixteen six-mule teams, three four-mule teams and twenty carts (but part of the carts equipped) for depot use proper; seven six-mule teams, two two-horse teams, four one-horse carts, and three two-horse ambulances for post use proper, and two hundred six-mule teams for general use of depot in shipping elsewhere. The total strength of the garrison here is five companies, footing up about four hundred men. The total force of employés, six hundred and twenty-one men. The supplies are all landed here, either at the levee, a few hundred yards off, or in the yards near the storehouses. The actual local transportation, therefore, is small, and I cannot conceive why so many teams should be required. The ambulances in charge of post quartermaster, I regret to say, I have noticed are used freely by officers and their families in violation of existing orders, and I recommend that they be reduced to one, which will surely suffice for all necessary medical

purposes here. So the post teams I recommend to be reduced to five, and the depot teams proper to ten, which I judge amply sufficient from what I have seen while here. The carts might be left as they are, and should be used freely, because they require but one animal, and oftentimes would transport readily quite as much as a six-mule team is called for, at a saving of the cost of five animals. The two hundred teams are a reserve supply, kept on hand for special occasions, such as bringing up supplies from the city of Leavenworth, three miles off, fitting out expeditions, and shipping supplies to points within 100 or 200 miles where no contracts exist. In some instances, however, they are sent 500 or 600 miles, sixty teams having been ordered by General Easton to Fort Reno, some time ago, to take out saw-mills and other machinery, remain there during the summer, and return here late in the fall. I think the whole number but the vicious remains of the old system here, when the government did all its own transportation, and recommend that at least one hundred and fifty of them be sold as soon as practicable. No contracts have been made for the short distances they are employed on, but I see no reason why they cannot be, to the great saving of the government. The true plan is undoubtedly transportation by the pound for all distances, except just here at the post, and I recommend that contracts be made accordingly. I apprehend the result would be a saving of at least one-third, if not more.

The contractors by the pound, under the new system, are reported as doing the work faithfully, and Colonel Potter speaks favorably of its workings. No supplies are sold to them in any way, and such as they fail to deliver are charged against them, at cost price, with full cost of transportation, &c., added, as appears by the records of his office.

In addition to the animals above reported as actually in use in teams, Colonel Potter has on hand 290 horses and 1,059 mules. These are kept in herds off on the prairies, and grazed about from place to place where grain can be bought the cheapest. The expense is necessarily heavy, and, it seems to me, is a dead loss every way, if the additional contracts recommended are feasible, and I see no reason why they should not be. I therefore recommend that the whole be sold as soon as contracts can be entered into.

Two hundred and fifty horses and four hundred mules, all unserviceable, I myself have ordered sold immediately here, after due advertisement, in pursuance of General Orders No. 38, Quartermaster General's Office, 1865. These included above.

I have looked into the matter of transportation of officers by stage-coach, and, so far as appears here, this depot is not to blame. Nevertheless, it is worthy of consideration whether this be not the cheapest method after all. An officer under orders takes either his mileage, actual expenses of transportation, or transportation in kind. His mileage, of course, he will not take in travelling over this costly region, because it would not begin to pay his actual fares. He must then take either his actual expenses, or go by quartermaster's train and get transportation in kind. Suppose he does the latter. In all such trains four-mule or four-horse ambulances are furnished on requisition, that accompany the trains on their slow march, and the total expense of these, including interest on cost, wear and tear, forage, wages of drivers, &c., when calculated for the increased number of days out, I submit, would amount to far more than the coach bills. For example: from here to Denver is about 600 miles; at stage coach rates, 30 cents per mile, the cost would be \$180, and the officer would reach there in six days. Travelling by wagon train he would not average over fifteen miles per day, which would make forty days to Denver. Hire and rations of driver for forty days, \$58 66; cost of forty days' rations of grain for four animals, at an average rate between here and Denver, say twenty-eight bushels, at five dollars per bushel, \$140; pay of officer for forty days, say \$150; cost of ambulance returning to Leavenworth, \$198 66—total, \$547 32, exclusive of other items that would foot up nearly \$100 more. If two officers or more occupied the same ambulance, of course the expense would be reduced proportionably; but it would, on the average, still be in favor of the stage transportation. Where officers are mounted, or are moving with troops, of course they should march; but in all other cases when under orders so as to entitle them to transportation, in my judgment, the quartermaster's department can do no cheaper thing than to send them by stage-coach. It is only the old principle of the railroad or stage-coach over again, with apparent dearness, but with real cheapness. Of course, troops should always march, and this, I am informed, has been the uniform practice here.

In this connection I desire to call attention to 858 surplus wagons, all serviceable, which have been taken apart and securely stored under sheds here. They are in good condition, well cared for, and I recommend that they be held for future use and issue. In addition to these there is a large number of unserviceable wagons, of various patterns, that I recommend to be sold at once at public auction as a useless encumbrance to the depot.

V.—REGULAR SUPPLIES.

(a) *Fuel*.—The post is supplied with wood by purchase on contract. There is but little wood on the reservation, except cottonwood on that part east of the Missouri, and this is being made into rough lumber and used for petty repairs. The supply on hand consists of 1,866 cords. This is a good merchantable article, and cost, delivered in the wood-yard here, \$12 per cord. Fuel is now lower, and Colonel Potter expects to increase his stock, at not above \$9 per cord, for the winter.

The coal on hand consists of 4,151 bushels. This is obtained from Lexington, Missouri, on contract, and costs, delivered here, fifty cents per bushel. But little of it is consumed. There is no coal nearer than this, and I have not been able to hear of any *peat beds*.

(b) The forage supply is sufficient for two months; hay much more. Steps are about being taken to obtain the winter's supply. That on hand cost here last fall—grain, 49 cents per bushel, and hay \$14 per ton. It was all derived from Kansas and Missouri on contract. The indications are that the supply this fall will not cost over 25 cents per bushel for corn, and \$9 per ton for hay. The crops here are excellent, and Kansas will yield more largely than ever before. The supply, of course, will be purchased on contract.

The grain is all well secured in well-ventilated sheds and cribs raised above the ground, and the hay is stacked on good dunnage. Large amounts of this last are also under good shelter in the lofts of the various stables. Both hay and grain are received and issued by actual weight, and all sacks are consumed at the depot or shipped to St. Louis. The whole system, as to fuel and forage, is a good one, and I commend it accordingly.

VI.—PUBLIC AND PRIVATE BUILDINGS.

(a) The private or hired property consists of only a few rooms hired in the city of Leavenworth for purposes stated in report herewith of Colonel Potter, and some corals in the country, used for feeding animals, at a total cost per month of \$239 16. Of this amount, \$189 16 per month is paid for hire of seven rooms in the city of Leavenworth, as offices for paymasters. I recommend that they all be given up, and the officers accommodated here, where ample office room stands unoccupied.

(b) The public buildings are very numerous. They consist of the barracks proper, intended for six full companies, and built chiefly of stone and brick; the attaché barracks, intended for eighteen companies, built of frame during the recent war, but fair buildings; the accompanying quarters for officers, proportioned to each set of barracks; the main storehouses, and offices of the depot, chiefly of stone; the levee warehouses of stone; and a variety of other buildings, mostly of wood. This does not include the ordnance buildings, which stand off by themselves, one-eighth of a mile or so, from the rest, and do not pertain to this report. I cannot ascertain that any map or drawing of these has ever been furnished to your office, or any ever made here. Colonel Potter is now engaged in preparing drawings, &c., in accordance with General Orders No. 3, Quartermaster General's office, 1864, and I have urged upon him the necessity of hurrying these forward as rapidly as possible. He has erred in not rendering them before, but you may now rely on receiving them soon. I do not send them herewith because not obtainable in time for this report.

The original buildings here, and the great bulk of the depot buildings, are of stone. Of this there are two fine quarries on the reservation—one of hard, *blue* limestone, close to the river, not above one hundred rods from the barracks; and the other, of yellowish or gray limestone, much softer, a mile or so off. The stone from both of these is excellent for building purposes, and no other material should be used for public storehouses here. I apprehend the first cost will be found but little more than that of frame, lumber is so scarce and high here, while the difference in safety, wear and tear, &c., is really incalculable.

The buildings above alluded to I deem amply sufficient for all present or future wants here, unless the status of the post be changed. There is in my opinion plenty of everything here to accommodate a twelve months' supply for all troops now operating west, or likely to operate there for some time to come. All the staff departments are well accommodated, and no more buildings of any kind should be erected without express authority from Washington. The barracks intended for six companies now have but five here; but, besides these, there are barracks for eighteen companies more, all now standing idle. Should more storehouses be required, here are all these, (nine long buildings,) besides the officers' quarters attached to them, making nearly one-half as many more; so there are ample quarters for employés, laundresses, &c., and chapel and reading-rooms provided for all. The whole post seems to have been organized with a view to the comfort and health of everybody, and it is about complete in all its appointments, except in the matter of water, which has been singularly neglected.

(c) The extent of the reservation has been heretofore stated, as also the fact that a map of the same was forwarded to you some months ago by Colonel Potter. It is reported here that it was officially recognized and declared as such by the Secretary of War many years ago, but I can find no record of the fact here. I have given its size as 6,840 acres. This strikes me as out of all reason now, and I suggest, as a matter of good policy, that a large proportion of it be soon disposed of. For instance, there are two large farms here conducted by the depot quartermaster—one called the "Bottom farm," containing five hundred acres, and the other the "Prairie farm," containing 700 acres. The "Prairie farm" lies near the city of Leavenworth, and some of the reservation runs up quite to the city limits. Careful accounts are kept of the cost of each of these and the proceeds thereof, and an annual report of the same rendered to your office. I have looked into them while here, and while the reports some years show a considerable gain, yet the average for a series of years shows a positive loss, or an even balance at best; and this, though no account is made of the interest on the value of the money invested in the lands, utensils, buildings,

fences, &c. Last year Colonel Potter, by shrewd management and a good season, cleared some \$13,000 off of both; this year he thinks he will lose money. The superintendents of these farms are appointed by the Secretary of War, but are mostly removable on the recommendation of the quartermaster, and the whole thing impresses me here as a mixed-up absurdity that ought to be speedily abated. If the proceeds justified the system, it would do very well to maintain them; but, in the absence of any profit, why hamper the quartermaster's department with a useless burden? The city of Leavenworth, already a town of 25,000 inhabitants, and rapidly increasing, tends directly this way, and if we do not soon dispose of part of this land, so necessary to her welfare, she and Kansas together will get Congress to "appropriate" it to them for city or State use anyhow. Besides, I think it a matter of justice to the people here that the government should put into the market land that is useless, or at least profitless, to the post, which, nevertheless, the growth of the community here calls for. I therefore recommend that a line be drawn from the Missouri river up the ravine or stream at the foot of the corrals west to the high ridge back of the reservation, thence along the ridge northerly to the Weston road, thence down the Weston road easterly by the "Bottom farm," to the Missouri again. This line would take in all the buildings, levees, corrals, &c., now in use here, and far more, embracing, in fact, about 1,200 acres. This should then be enclosed by a substantial fence, for obvious reasons, and all the rest, including the two farms, I recommend to be sold immediately at public auction. Much of this land is very valuable because of its proximity to the city, and the sale ought to realize a very handsome sum, as \$5,000 a year was offered for the lease of only one of the farms last spring, but refused. This would dispose of about 4,640 acres here, and I think the reduction very necessary, as well as a just one.

I cannot learn that any use as yet has been made of the \$1,000,000 ordered to General Easton some time ago for sheltering troops on the Plains; none, at least, has been made here. In passing through St. Louis I called on General Easton, and he informed me (July 28) that he had just received \$200,000 of it, and would take immediate steps in the direction indicated. The balance he thought would all be absorbed, and he doubted whether he could push the lumber, &c., forward in time to get the buildings up before winter. However, he will do his utmost, and I shall report more fully on this as I pass posts further west. Considerable lumber has already gone forward, and more is going from here and elsewhere.

VII.—EMPLOYÉS, ETC.

The total force of employés, as appears by roll of Colonel Potter herewith, foots up 621 men, at a total cost per month of \$28,442 50, exclusive of quarters and rations, which are also furnished to the bulk of them. I do not think them much in excess, if it is intended to maintain the *status quo* here. But if the farms be sold and transportation turned over to contractors, as heretofore recommended, then the force can readily be reduced three-fourths. As it is, I regard his force of clerks (17) too large, and recommend its reduction to ten at the furthest; so it strikes me, he has too many wagonmasters, assistant wagonmasters, and foremen, and some of each might profitably be lopped off; so, I see no reason for the twenty-three others—think the teamsters have ample leisure to take care of their own stables, and would recommend their discharge accordingly.

The force of laborers (99) I recommend to be reduced to 50. So, I see no reason for a head sawyer, at \$3 50 per day, when only a small mill is occasionally run, and recommend his discharge accordingly. In the matter of mechanics, I would say, that I carefully inspected the shops, and suggested to Colonel Potter that too much work was being done in the way of repairs—some wheels were being reconstructed entire from old hubs, and coupling poles, wagon tongues, &c., were being manufactured. In view of the great surplus of such material everywhere east, more than the department knows what to do with, I think all such repairs inexpedient now, and recommend that none such be entered upon, unless the article is at least one-half good; better to sell as unserviceable, and use up the redundant stock on hand. The same is true of repairs to harness, &c. To this end I recommend that his seven wheelwrights be reduced to two; his twenty-four blacksmiths, (helpers and horse-shoers included,) to twelve; his five saddlers to two; his four painters to two; his two plasterers to one; his twelve carpenters to four. The saving would be considerable, and I apprehend the really necessary work of the depot would get on quite as well. I regret to say, I found considerable unnecessary work being done. In the saddlers' shops I observed some fine leather cushions, curtains, and other work proceeding for one of the employes, and in the paint shop a dilapidated carriage for the same person was being thoroughly overhauled, repainted, &c. Colonel Potter reported the materials and time of the mechanics charged to the man, which makes no loss to the government, but I do not regard the quartermaster's department as intended for such general jobbing work, and would recommend that he be instructed accordingly. I think too much of this has been done here, both for officers and employés, for a long time back, probably before Colonel Potter came, and I regard the system as a vicious one, because of the great temptation it holds out to employes for frauds and irregularities of all sorts. I am sorry to report these facts, but I feel it to be my duty, as they exist here.

VIII.—NATIONAL CEMETERIES.

The condition of the cemetery here, until recently, has been disgraceful to the post and to the nation. It was uninclosed, and the common ranging grounds for cattle, &c. The interments had been made without order or system of any sort, and the whole place was overgrown with weeds and brambles. As an adjunct to the post proper, Colonel Potter did not deem himself responsible for its condition; but recently, finding nothing was done to improve it, he took hold of it himself, and is now doing work there that will be most creditable to him and to the department. He has enclosed, with a neat paling fence, about three acres of ground, and established stiles and gateways to render it easy of access. The plot is almost a square, and around the whole, inside of the fence, he proposes to run a carriage-way. The graves already there he is trying to reduce to system, and to open paths among them, wherever practicable. All are being leveled up, and new head-boards erected; many are without head-boards, but he hopes to get their names, &c., from the hospital record; hereafter he will keep careful records of his own. In the spring he proposes to set out trees, wild flowers, &c., and thus make the place decent and honorable alike to the dead and to the government. This cemetery already contains about 1,000 graves, and the number will increase from year to year while the post continues here. Officers, soldiers, employes, their families, &c., all find here a common burying ground. I have commended Colonel Potter for the good work he has done here, and directed him to retain control of the cemetery, as a part of his depot duties, unless otherwise ordered by competent authority—that fact to be reported at once to the Quartermaster General.

IX.—FIRE DEPARTMENT.

In making my inspections here, I have constantly been amazed at the utter absence of anything like due precautions against fire. The amount of public property here is very large, and sad experience elsewhere—only last winter at Fort Riley—should have taught us wisdom in this regard. The value of the clothing, &c., is estimated at \$2,500,000, the balance of the property, exclusive of animals and buildings, at \$4,000,000; so that the total value of the government property here is not much short, I apprehend, of \$10,000,000. To protect this, there are about a dozen cisterns, averaging 300 barrels each, many without pumps, and an old wheezy hand fire-engine with 800 feet of hose, having a throwing capacity of about fifty feet perpendicularly, and say seventy horizontally. For working this engine no proper force even has been organized, and the most of the buildings are beyond its perpendicular capacity anyhow. At a recent fire here one of the cisterns was exhausted, and the post only just escaped a general conflagration.

Colonel Potter informs me that he has repeatedly called the attention of the department to this bad state of things, and that last winter or spring a steam force-pump and water pipe were sent here for the purpose of carrying the water up from the Missouri to the top of the bluff, and thence distributing it about the post. No orders, however, were sent to *do the necessary work*, and on application he was informed that the question of putting up water-works here was held over for consideration. He has heard nothing about the matter since, though very anxious to receive the necessary authority. He estimates that the total cost of putting up small water-works here, so as both to supply the post and fight fire, will not exceed \$25,000. He says the water wagons daily in use now to supply the depot and post, so as to leave the cisterns mainly intact for use in case of fires, cost at least that amount annually, and perhaps more. Suppose they cost nothing: would not the interest on \$25,000 be a small insurance to pay on the \$8,000,000 or \$10,000,000 of property here, now hourly exposed to destruction? I was never more deeply impressed with danger from fire in my life than I have been while here. The public buildings are substantially defenceless, and yet all around and near them shanties have been permitted to grow up that ought at once to be removed, and none allowed to be built hereafter except at a distance. These are occupied chiefly by the families of employes and other nondescripts, and it was from just such shanties that the Hilton Head fire occurred last spring, that cost the department nearly a million of dollars. I have called the attention of Colonel Potter to this state of things, and directed him at once to provide buckets and barrels of water for all his main warehouses; to organize a force to work the fire-engine; to call on the post commander to remove the shanties and forbid them hereafter; to have watchmen day and night, and to forward you, without delay, complete plans and estimates for the necessary water-works here, and also a requisition for a steam fire-engine. He ought to send them within a week, and thereupon I recommend that he be directed to push the works forward rapidly to completion, so that they can be in use before winter sets in, and that the engine be sent immediately. I cannot impress upon the department too strongly the importance of this. Colonel Potter and General Hoffman both concur in the opinions here expressed, and there can be no question as to the actual and immediate public necessity of such works here at Leavenworth. I do not apprehend that the post will soon be abandoned; at all events they would pay for themselves in one year, and they might in an hour if a great fire should occur here. Pardon me if I suggest again, ought we not to learn a lesson from the great fires at Nashville, Chattanooga, Fort Riley, Hilton Head, &c., and can the department afford to repeat these hereafter?

Inflammable oils, oakum, &c., that I found in the midst of the main warehouses among other stores, I directed to be immediately removed, and authorized Colonel Potter to erect a rough, cheap building, separate and apart from the others, to accommodate such small property if necessary.

X.—MISCELLANEOUS.

(a) Some machinery has been sent here for hoisting purposes, but it is incomplete. It was intended to erect apparatus to hoist goods from the levee to the top of the bluff near the storehouses, but no orders were sent to put it up, as I am informed. If erected it would pay for itself in a very short time by the saving in the way of teams, teamsters, &c., now required to haul up the steep acclivity from the levee; and I recommend that instructions be sent to put it up without delay. If Leavenworth is to be maintained as a chief depot for the future, this hoisting apparatus will save thousands of dollars every year, and it cannot be put into operation too speedily.

(b) It would call attention to the defective files of your general orders here; neither Colonel Potter nor any one else having all. Captain Alligood has a few, and Lieutenant Mitchell none. Can not this matter be corrected? I recommend that full files, from 1861 to date, be sent to Colonel Potter, as soon as practicable, and held on hand for the depot.

(c) General Hoffman, now serving temporarily as department commander, desired me to call your attention to the tardy manner in which his requisitions on St. Louis, for the plains, were filled. I apprehend the difficulty is with post quartermasters, who have failed to make their requisitions promptly, rather than with General Easton; but I state the fact as he gave it to me. He instanced some recent requisitions for cavalry horses particularly, which are much needed here.

(d) There is a small printing establishment here run by detailed soldiers. Its work is chiefly for the post; but its control had become so mixed up with post, depot, and department headquarters, that I deemed it my duty to cut the Gordian knot by directing the transfer of the whole concern to the post quartermaster. This I found necessary to end embarrassments here.

XI.—ACCOUNTS.

The accounts of Colonel Potter and Captain Alligood I inspected minutely, and found them mainly correct; also those of Lieutenant Mitchell. Those of Colonel Myers I did not see, for reasons stated; all funds were in the hands of Colonel Potter, and they footed up, August 3, \$141,854 55: counted, and found correct. The estimated cost of the depot, monthly, Colonel Potter reported as at about \$60,000, including employés, fuel, forage, &c.

RECAPITULATION.

I. I think the general management of the depot very good, and would commend Colonel Potter for his efficiency and zeal. He gives great attention to his business, and he has some of the best employés, in the way of clerks, superintendents, &c., that I have ever met. Captain Alligood, military storekeeper, is doing good service here, but could be spared if required elsewhere. Lieutenant Colonel Myers I recommend to be relieved as surplus here; his duties, such as they are, to be transferred to the depot quartermaster.

II. I recommend that the unserviceable camp, clothing, and garrison equipage, quartermaster's stores, means of transportation, &c., be sold here at public auction without delay.

III. I recommend that Leavenworth be retained as the chief depot west of the Mississippi, and that supplies be shipped from both here and Omaha; that depot quartermasters be stationed at the terminus of each railroad west from Leavenworth and Omaha, respectively, next spring, with shifting establishments, the same as on military railroads during the war, and that small supplies be sent them from Leavenworth and Omaha, from time to time, as required—the depots to push on as the railroads advance.

IV. I recommend that the government reservation here be reduced from 6,840 acres to about 1,200 acres—the two government farms and other outlying lands to be sold at auction, after due advertisement. Reason, first, because of economy; and, second, as a matter of justice to the people here who should not be needlessly kept out of the land near the city of Leavenworth, when it is of no use to the government.

V. I recommended that the public teams here be largely reduced, and transportation by contract substituted instead. I think there is a large saving involved in this in a variety of ways.

VI. I recommend that the surplus animals—surplus, if above is done—be sold at public auction as soon as practicable.

VII. I recommend that the employés be reduced in the grades of clerks, foremen, mechanics, laborers, &c.; force too large; can be heavily reduced if previous recommendations are carried out.

VIII. I recommend that rooms in the city of Leavenworth, occupied by paymasters at a cost of \$186 16 per month, be vacated, and these officers accommodated at the fort, where ample office room now stands vacant.

IX. I recommend that a steam fire-engine be sent here immediately, and small water-works be authorized erected, as a most necessary precaution against fire; great danger here now.

X. I recommend that hoisting machinery be erected here, to lift stores from the levee to the high bluff on which the storehouses stand. Part of the machinery now here, and the establishment would pay for itself in less than a year.

XI. I recommend that Colonel Potter be supplied with full files of general orders from your office from 1861 to date.

In conclusion, I am, very respectfully, your obedient servant,

JAMES F. RUSLING,

Colonel and Inspector Q. M. D., and Bvt. Brig. General.

Brevet Major General M. C. MEIGS,

Quartermaster General U. S. A., Washington, D. C.

P. S.—As to orders issued while here, please find copies herewith.

J. F. R.

A true copy:

JOHN V. FUREY,

Brevet Major and A. Q. M.

OFFICE INSPECTOR QUARTERMASTER'S DEPARTMENT,

Fort Riley, Kansas, August 13, 1866.

GENERAL: I beg leave to submit the following report relating to the quartermaster's department at Fort Riley, Kansas:

This depot or post is situated on the Kansas river, at the junction of the Republican and Smoky Hill, to form the Kansas, and is reported as one hundred and thirty-three miles from Fort Leavenworth. A large amount of public money has been expended here, and in times past the post has doubtless been an important one; but with the advent of the Pacific railroad, to reach here this month, and the large influx of immigration already here, it will yearly become less so. This whole region along the Kansas, and the Republican and Smoky Hill for miles beyond, is mostly pre-empted, and is fast settling up, so much so that farms appear on every side. On these the government may already depend for large supplies, and I think had better do so, than import them from the east, on the score both of economy and good policy.

I.—OFFICERS.

The only officer here is Captain R. B. Owens, assistant quartermaster volunteers, now serving as both depot and post quartermaster. He is an officer, no doubt, of industry and integrity, but of capacity, I regret to say, unsuited to so important a position. He seems constitutionally negligent and confused, and these traits are badly apparent in all his affairs here. His storehouses are mixed up and confused, serviceable and unserviceable property being stored together, without order or system. His shops are disordered and littered up, not to say filthy. They do not seem to have been policed for weeks, if not months, and his stables and employé quarters are the worst, in point of cleanliness, that I have seen for a year past. His file of orders is scarcely mentionable, and he does not seem impressed with the necessity of having them.

His office is tolerably organized, and its condition, I am glad to say, fair. So the officer himself is industrious and hardworking enough in his way; in fact, too *hardworking* for a quartermaster, as he conceives his duty lies in that direction, of mere petty details outside, while the more important matters of organization and general supervision are neglected, of necessity. I have called his attention to the worst matters, and copies of orders given will be found herewith. But in view of all I see here I am constrained to recommend that he be relieved from duty without delay and mustered out, as unfitted for the service. I do this with regret, as he seems an officer of integrity, and no doubt does the best his peculiarities will allow. I regret this the more as I have been the recipient of many courtesies at his hands while here; but a conscientious discharge of duty leaves me no other course.

II.—CLOTHING, CAMP AND GARRISON EQUIPAGE.

The supply of these on hand is large, as will be seen by reports herewith. It foots up about one thousand suits, with variations. The quality is generally good; no complaint made. A considerable portion is in bales, which, by handling, have worn through the bale cloth; but the damage by this is small, all things considered. The present garrison here consists of one company of infantry and portions of two companies of cavalry, in all less than one hundred and fifty men. If the cavalry absent returns, the garrison will still be less than three hundred men. So that Captain Owens has, in effect, a year's supply here, and something to spare for points beyond. His unserviceable camp, clothing, and garrison equipage

is not large, but should all be sold here immediately, first, to clear his warehouses; second, because it will sell for fair rates here, judging by previous sales; third, because it will not pay to ship it east.

III.—RAIL AND RIVER TRANSPORTATION.

The Kansas, though a considerable stream, and navigated beyond here, to some extent, in former years, is nevertheless impracticable as a means of transportation, and its navigation has not been attempted of late. Besides, the Pacific railroad is now almost here, and that will absorb everything of this nature. I came over it on Friday last, from Leavenworth as far as Wamega, a station thirty-two miles east of here. That is as far as the trains now run; but it is completed as far as Manhattanville, a station sixteen miles further west, and is only waiting for a small bridge across the Blue Water there to bring the trains forward to that point. This bridge, I was assured by the railroad men, would be done by August 20, when they would at once push on to Riley, and they expect to reach here by September 1. The road is now graded to Junction City, three miles west of here, and some three miles beyond even that, and much of the rail is laid between here and Manhattanville. So a good force of men are at work on the road, though not as large as there should be; and I think we may depend on the road reaching here by September 15 at the furthest. That done, the problem of supplying Riley is solved forever, and it only remains to be considered how far it will be converted into a main depot for posts further west.

As to this I have given my views at length in report on Leavenworth, page 2 to 7, which please see. A careful consideration of the subject since, in connection with what I see here, confirms me in all I there say, and I beg to reiterate those opinions accordingly. There is nothing here to warrant a great depot, in my judgment, as the Pacific road is now going up the Smoky Hill instead of the Republican. If it went up the Republican, as originally proposed, then of course Fort Riley would be the terminal depot for New Mexico, &c.; but, as it is, Riley becomes only a passing post. The buildings are only sufficient for present exigencies, and there are no storehouses proper whatever. If others are erected the lumber in the main must be imported from the east, (Leavenworth,) or stone must be used, at a heavy cost in either case.

The transportation from here to posts beyond is now done both by contractors and Captain Owen. Captain Owen reports the contractors as doing their work very satisfactorily; yet, as he has some two hundred and thirty-two teams on hand, and no orders to dispose of them, he still uses them in forwarding freight. The bulk of the supplies called for, he says, have gone forward, but he still has some thirty thousand bushels of corn to ship, and this he proposes to send half by contractors and half by his own teams. I have directed him, verbally, to ship all he can by contractors, as I am positive it is the cheapest; but so long as the teams are on hand I apprehend work will be found for them. Some of them are now engaged in getting in wood and hay here, cut from the reserve. Others are in herd or park; but the bulk of them are on the road, between here and Fort Ellsworth, one hundred miles; Fort Larned, one hundred and forty-five miles; Fort Dodge, two hundred and forty-five miles; Pound creek, two hundred and ninety-five miles; and Fort Lyon, four hundred and ten miles. Is this economical or advisable? In my judgment it is the same bad policy as obtains in part at Fort Leavenworth, and, as there, I recommend that only sufficient be retained here for the actual local use of the depot, say twenty-five or fifty teams, and that all the remainder be disposed of at public auction as soon as the necessary arrangements can be made with the contractors. This should have been done last spring. It ought not to last after the close of this season.

I cannot learn of any supplies having been sold to contractors by Captain Owen. As to the "contracts" themselves, he thinks "fifteen days" too long notice for the contractor to have before taking freight, and I am inclined to concur with him. It must not be forgotten that this region is no longer a barren wilderness, but is filling up with people, and being overspread with a potent civilization hour by hour. Contractors, therefore, should be required to "govern themselves accordingly," and not drone on in the old-time ways.

IV.—REGULAR SUPPLIES

(a) *Fuel*.—Coal is obtained from mines near Topeka, distant seventy-five miles east, at thirty cents per bushel, and hauled here by Captain Owens. The extension of the railroad here will obviate this, as well as bring many other blessings. The amount on hand is only one hundred and thirty-three bushels; but little is used. Wood is obtained here off the government reservation, cut by quartermaster's men, and costs, Captain Owen thinks, \$7 per cord, delivered here. It is oak and cottonwood, and fair for this region. I can learn of no peat here. Coal is reported nearer than Topeka, but the owners of the mines will not reveal them, so that Topeka is the only resort yet awhile. The wood on hand foots up four hundred and fifty cords, and more is being cut to make up the winter's supply; its average distance is three and four miles.

(b) *Forage*.—No portion of the reserve is farmed, and forage is procured from citizens, partly on contract and partly in open market. I think the latter plan bad for well-known reasons; but Captain Owen has authority so to purchase, from your office and General

Easton, and I merely record my opinion. His hay last year cost him \$10 per ton. He is now cutting hay on the government reservation, and expects to secure eight hundred tons here, at a cost, as he estimates, of about \$7 50 per ton; he will also have some two hundred tons at Salina, on Saline river, fifty miles west of here, for use of passing trains. This last he gets on contract at a cost of \$16 per ton, baled. The price is not unreasonable for that section.

For corn he is paying fifty cents per bushel in the ear, and eighty cents if shelled and sacked. He has now on hand 1,064 bushels, purchased here principally at these prices. The crop in Kansas will be unusually large this year, and corn ought to be purchased in the fall or winter at not exceeding twenty-five or thirty cents per bushel in the ear, and Captain Owen concurs in this. What grain he has is well cared for, though too much lies around loose on the outside of his granaries, and his hay is all well dunnaged. He fears that citizens here may fire his hay, so as to make the government buy the country crop, but this is only among the possibilities. He has sufficient machines here for hay purposes, and all forage is received and issued by weight. His grain sacks are used up here and at the front.

V.—PUBLIC AND PRIVATE BUILDINGS.

Of course there are no private buildings in use here. Of the public buildings there are barracks sufficient for six companies (three here now,) with good quarters for officers in the garrison proper; an excellent hospital building; two other good buildings, one used as quarters for chaplain, the other for quartermaster's office; five (5) long stables, sufficient for ninety horses each; and several minor frame buildings used as shops, employes' barracks, mess-houses, &c. The garrison proper is an enclosure of some four or five acres, about a square due north and south on an elevated plateau here, just below the junction of the Republican and Smoky Hill rivers, to form the Kansas or Kaw. The buildings are all of a yellowish limestone, found near here on the reserve; are each a story and a half high, but the half so high as to constitute a story nearly, and used as such here, and are all in good, though not perfect, repair. A little patching and painting is wanting here and there, in the hospital especially, but there is nothing serious as they are. One of the barrack buildings is now used as a quartermaster's storehouse, and is pretty full on both floors, but the property is in a sad state of confusion, and the building inside and outside reflects on the department. Inflammable oils were stored in the midst of this, and shavings and other litter beset the doors outside. I directed the immediate removal of the oils, and the thorough policing and systematizing of the building. Copies of orders will be found herewith.

The stables are also of stone, but covered with a patent paper roofing. These roofs now nearly all leak badly, and need immediate renewing. One of them is occupied by the commissary for a storehouse, and is as "clean as a whistle;" another by the cavalry now here, and is in only tolerable condition; another is partly used for storing corn, &c; another for stabling public animals of the quartermaster's department in daily use here; and the fifth stands idle. A sixth was burned down last winter with all its contents, being then in use as a quartermaster and commissary of subsistence storehouse. Estimated loss \$327,000, or thereabouts. The ventilation in all of these stables is wretched, and I cannot conceive what could have induced the erection of such here, where the summer heats are so extreme. I recommend that windows be cut in all of them to give air and circulation, that new roofs be put on all, and that one of them be immediately selected and adapted for a quartermaster's storehouse. The garrison barracks now used for this purpose is very unfit, and too much exposed, but one of these stables at a little expense would suffice very well. The burnt stable is still littered up with the debris of the fire there, such as old iron, chains, camp kettles, &c. This I directed Captain Owen to take up, and submit to an inspector for condemnation and sale here, after retaining what he deemed valuable, so as to clear the ruins. He did not think this necessary, as he was not technically accountable for the property, the fire having occurred under his predecessor, a Captain Scott, now mustered out. I advised him differently.

Drawings and descriptions of these buildings, in accordance with existing orders, Captain Owen has just completed preparing, and he says they will be forwarded to you in a day or two. Hence I send none herewith. Copies will be retained for use of depot as a part of official records of the quartermaster's office.

The government reservation here embraces about 28,000 acres. It lies in a very irregular shape, bounded by the Kansas river on the south, principally, though extending across both the Smoky Hill and Republican, farther west. Much of it is rolling prairie, though a large portion is excellent bottom land, some of it tolerably timbered. A yellowish limestone abounds on it and makes excellent building material. Slates are found under the bluff just by the fort, and I should not be surprised if coal was deposited somewhere on it. The country here is settling up so fast that this large reservation will soon become a serious embarrassment, and as so little of it is being used I recommend its immediate and heavy reduction. The four (4) sections immediately about the fort, embracing the junction of the Republican and Smoky Hill—Nos. 20, 21, 28, and 29 on the land office map for this district, and comprising about 2,560 acres—I recommend to be retained for permanent use of Fort Riley. The balance I recommend to be put into the market—1st, because not used by nor wanted for the post, and never will be; 2d, as a measure of justice to this section of Kansas. Now that the railroad has reached here immigration will pour in, and the government, I take it,

has no desire to obstruct or retard the tide by holding on to this large amount of surplus land here. No map of this reservation exists here, nor can I learn that any has ever been furnished to your office. No information can be had that it has ever been officially declared a reservation. The sutler here, who seems somewhat of a permanency, thinks it was in 1857, but he is not positive about it. I learned, however, that there was such a map in Junction City, in the office of the United States register of lands for this district, and directed Captain Owen to have copies made therefrom without delay—one for your office and one for the quartermaster's office here, and to enter thereon, as accurately as possible, the public buildings here. I presume this will settle the matter.

Stone for building purposes, as I have said, is present on the reservation in large quantities, at only a short distance from the garrison, a half a mile or so. Clay for bricks has also been found, but stone is best. The garrison is too weak to furnish details for any purpose of the quartermaster's department.

There is a reading-room and library at the post for use of troops, but none for the quartermaster's employés. The employés are quartered in shanties, and some few in tents. One large building, frame, serves as a mess-house and dormitory for the mechanics and some others. The mess-house part of it was in excellent condition, but the dormitory part was filthy in the extreme. Captain Owen's attention was called to this, and he replied that his orders were "to sweep it out *once a week*." I directed its immediate and thorough policing and better care of it hereafter, as will be seen by copy of order herewith.

If my views as to the future *status* of Fort Riley (p. 5) are concurred in, then no more buildings are required here; but if it is intended to create a large depot here, then storehouses should be immediately put up, the materials to be principally of stone, now here. No portion of "General Sherman's \$1,000,000" has yet reached here, and, in my judgment, none should be sent.

VI.—NATIONAL CEMETERY.

There is ground here set apart for cemetery purposes, but its condition is unsatisfactory. It embraces some three acres or so, on a bluff facing the Republican, and requires fencing only on two sides, as the other two are bounded, one by a precipitous ravine, and the other by the abrupt face of the bluff. A neat paling fence has once been round the two former sides, but it has fallen into decay in parts. This I directed to be repaired and thoroughly whitewashed. A large number of interments have been made here, probably between two hundred and three hundred officers, privates, employés, &c.; but the whole place is now overgrown with brambles and weeds, and out of all the graves but a score or so have distinguishing headboards. I have directed Captain Owen to clear up the grounds without delay, and to erect a headboard at each grave; where identity was undiscoverable, to record simply, "Unknown grave." No order or system has been observed heretofore in the interments. I directed him to number all the graves, adopt a general system for interments, and hereafter keep a careful register in his own office as required by regulations and existing orders. His report on this cemetery, forwarded in April last, is defective, as appears by his retained copy here; the facts are as above stated.

I think the condition of this cemetery, as well as the storehouses, shops, stables, &c., heretofore referred to, discreditable, not only to Captain Owen, but also to the post commander, Brevet Major Noyes, United States army, as a part of them, at least, are peculiarly under his orders, if he has not a general oversight over the whole, so far as policing goes. I regret to make this report, but the police condition of the post generally is bad, and calls for speedy correction from some quarter. I cannot refrain from saying this much; I would be justified in saying much more. The cavalry stables, both inside and outside, are disgraceful to the service.

VII.—EMPLOYÉS, MEANS OF TRANSPORTATION, ETC.

The force of employés on hand July 31st foots up 481 men, at a total cost of \$19,937 per month, rations and quarters not included, though in the main necessarily allowed. (See Captain Owen's report herewith.) So long as the present *status* is maintained here as to transportation, &c., I do not see that this price can be greatly reduced. But substitute transportation on contract "by the pound," which I am more than ever convinced is the true policy out here, and it may be reduced to not exceeding 50 or 100 employés here at Riley. The item of teamsters (327, less 35 discharged) seems wrong, as but 232 teams are reported, but as the same wages are paid to both teamsters and the laborers, the two have not been strictly classified, and are allowed to change from one force to the other freely, which is bad, in my opinion. The shops are run on a reduced scale; still, too much "repairs" are going on, as at Leavenworth. Wheels were being reconstructed from merely hubs, which don't pay here, and tongues and poles were being manufactured from raw materials. Better to send a supply from the large surplus of "parts" now on hand everywhere east, as all raw materials fit for wagons have to be sent from there anyhow. After the haying season is over, probably by September 30th, the men engaged in that duty may be discharged, probably 100, and when the winter's supply of fuel is secured, say by November 30th, probably 100 more. This will still leave some 281, which cannot be materially reduced, unless con-

tract transportation be at once adopted. I recommend that the necessary steps be taken to enforce contract transportation, complete as far as practicable, early next spring; and I think it advisable also to contract for all fuel and forage obtained here. If the items be obtained on the reservation, of course that will diminish the contract price, and I confess I have no faith in the calculations made as to the cost of these items as procured here now by the quartermaster's department; the reasons are obvious.

VIII.—HOSPITAL ACCOMMODATIONS FOR QUARTERMASTER EMPLOYÉS.

There are no hospital accommodations here for our employés, and there is no building suited for the purpose. Of late they have taken care of themselves the best—a small tax being assessed on each, with which Captain Owen paid for medicines, and occasional medical attendance in extreme cases. Their admission to the post hospital, he informs me, has been refused, because he declined to pay the post surgeon for medical attendance required. Heretofore this had been done by his predecessor, Captain Scott, and the amount thus received by the then post surgeon, Surgeon Finlan, 5th United States volunteers, he says amounted to more than his (Finlan's) entire pay as surgeon. Surgeon Finlan's successor, Surgeon Irvin, United States army, demanded this same payment, (sixty cents per employé per month,) or he would not receive our employés, as Captain Owen reports. This Surgeon Irvin admits, but qualifies it by saying that a part of the employés were already being attended by a contract physician, to whom a tax was paid, and that he, declined receiving the balance unless he was paid also. Previous to my arrival here, the contract physician had been discharged, and the facts stood as above. The facts being reported to me, I looked first through the hospital and found but two or three patients there, though it has an estimated capacity of forty-eight when full. I next saw the post commander, Brevet Major Noyes, and asked him if he knew of and approved the decision of his medical officer. He seemed uncertain about it, but thought the surgeon entitled to such extra pay, as he (Major Noyes) had submitted the point to Colonel Jones, assistant inspector general, when here recently, and Colonel Jones had decided in favor of medical officer's charge. I protested against the whole matter, in view of the regulations and the nature of the post here—the nearest physician being at Junction City, three or four miles off, and often away, and the medical officer here having scarcely anything to do—and insisted that Captain Owen's men should be received in the post hospital, and treated the same as soldiers—the cost only of the medical supplies dispensed to them to be charged, which Captain Owen was to pay out of a fund assessed for that purpose, and report the same to your office monthly, on a special account current. The post commander finally yielded to my representations, saying he concurred in my opinion, that no surgeon should receive such extra pay, even if entitled to, (as he believed he was,) and agreeing to instruct the post surgeon as above. I submit the whole case thus for your information and recommend that full instructions, as to the matter referred to, be sent to Fort Riley without delay.

My action was necessary, and it is fortunate that I happened here just now, as Captain Owen's men are, many of them, sick, and his sick-list promises to increase for some weeks to come.

IX.—FIRE DEPARTMENT.

Notwithstanding the destructive fire here last winter, no adequate precautions have been taken against fires. Cisterns exist at each of the buildings of considerable capacity, but many of these leak and need repairing. A few barrels of water are stationed near the main storehouse, and empty buckets and axes are also placed about several others. But there seems to be a general neglect of the subject as a whole. The main storehouse, even, is littered up with shavings; various inflammable materials, such as wagon bows, empty boxes, &c., are piled up against it, and the shops are worse. I corrected all this by ordering a general clearing away of inflammable materials, the placing of barrels and buckets of water freely through the buildings, shops, &c., and the stationing of watchmen day and night, soldiers not being obtainable. But the great want in this respect are water-works and a good hand fire engine. I directed Captain Owen to forward you plans and estimates for these without delay, and I recommend action upon them as soon as practicable. Water may be procured either from the Kansas, which is not above 200 yards from the main buildings, and from the Republican, a half or three-quarters of a mile away. The Kansas is unfit for drinking purposes, because of the large amount of mineral matter in it, but will suffice for all other purposes; the Republican is sweet and much better every way, and it is worthy of consideration whether that should not be used, though the cost be somewhat greater. I apprehend sufficient water-works, on a small scale, would not cost over \$10,000 or \$15,000 at the outside, and they would pay for themselves very soon, as a water-wagon has now to be constantly employed at a yearly cost of not less than \$1,000, everything included. I recommend their construction accordingly, and that a good hand fire engine, with sufficient hose, be sent here without delay. The government property now here foots up very nearly 1,000,000 exclusive of the buildings, which cost, I am informed, fully \$1,000,000 more

The interest on the cost of sufficient water-works, &c., would be a very trifling insurance on so large an amount of property, and would be more than repaid by getting rid of the costly water-wagon.

X.—ACCOUNTS.

The accounts of Captain Owen had been rendered for June, and those for July were well advanced. They were generally correct, though no authority appeared for his frequent purchases in open market in violation of existing orders. He has such authority in his possession, however, but he had neglected to file it with his accounts, or refer to it on his vouchers, as required. He was instructed accordingly. The amount of cash on hand August 11 was \$27,247 73, of which \$21,247 73 was in safe, and the balance on deposit with United States treasury at St. Louis, Missouri. Amount in safe was counted and found correct.

XI.—MISCELLANEOUS.

1. A steam saw-mill, capable of cutting 2,500 or 3,000 feet of lumber per day, is attached to the post, and is now manufacturing cottonwood lumber for use at Fort Ellsworth. It is in good condition, and is a valuable adjunct of the depot.

2. There is a good chapel here, built of stone, and capable of seating some one hundred persons or so. It is used regularly on the Sabbath, but the service is poorly attended, only four adults and four children being present August 12, out of a population of one thousand souls here at the post, soldiers, citizens, &c., all included. Either Sunday does not extend west of Leavenworth, which is probable, or else the chaplain is not a Beecher or a Whitefield.

3. There is a considerable amount of unserviceable quartermaster's stores, wagons, harness, &c., here that are of no use, and only encumber the post. I recommend that they be sold at public auction here as soon as practicable.

RECAPITULATION.

1. I regret that it is my duty to recommend that Captain Owen be relieved from duty and mustered out as not suited for the service, for reasons given at length. (See page 2.)

2. I recommend that all unserviceable property here be sold immediately at public auction, after due advertisement, so as to relieve the depot of useless material. (See pages 3 and 24.)

3. I recommend that the great bulk of the teams here be sold, and the transportation of freight turned over wholly to the contractors. I estimate the saving at-one third. (See pages 5 and 6.)

4. I recommend that the stables here be put in immediate repair, and one of them converted into a quartermaster's storehouse. (See page 10.)

5. I recommend that the government reserve here, about 28,000 acres, be reduced to 2,560 acres, because that amount will amply suffice for all present or future wants here. (See page 12.)

6. I recommend that employes be reduced at least by spring, by turning over not only general outside transportation, but also the procuring of fuel and forage to contractors. I believe a large saving would result from this, at least one-third, and perhaps more. (See pages 16 and 17.)

7. I recommend that a hand fire-engine, with sufficient hose, be sent here immediately, and that small water-works be erected, without delay, as a necessary precaution against fire. (See pages 20 and 22.)

I have looked well into everything, I believe, pertaining to the quartermaster's department while here, because I thought this post occupies much of your attention now in connection with this region, and submit the above report as results of the same. In conclusion, I cannot forbear repeating the opinions expressed on page 5, and am persuaded you would be of the same judgment were you here in person.

I am, general, very respectfully, your obedient servant,

JAMES F. RUSLING,

Colonel and Inspector Q. M. D., Bvt. Brig. Gen.

Brevet Major General M. C. MEIGS,

Quartermaster General U. S. A., Washington, D. C.

NOTE.—Clerk sick. Report finished by myself.

J. F. R.

A true copy:

JOHN V. FUREY,

Brevet Major and Assistant Quartermaster.

OFFICE INSPECTOR QUARTERMASTER'S DEPARTMENT,
Fort Kearney, Nebraska Territory, August 22, 1866.

GENERAL: I arrived here yesterday, across the country from Fort Riley, Kansas, and beg leave to submit the following report relating to affairs at Fort Kearney, Nebraska:

I.—OFFICERS.

The quartermaster on duty here is First Lieutenant Charles E. Dibble, 18th United States infantry, and acting assistant quartermaster. He relieved Captain Ladd, assistant quartermaster.

master of volunteers, August 1, and is an intelligent, energetic young officer. The other company officers at the post belong to the troops here, (two companies 5th United States volunteers, less than one hundred strong,) and are all required for garrison duty. Lieutenant Dibble has been ordered to join his regiment, but is retained here by the post commander, Brevet Brigadier General Wessels, United States army, because of his fitness to serve as post quartermaster, and the general unfitness of other officers here; and in this opinion I beg leave to concur. His affairs are generally in good condition, and bear marks of intelligence and capacity in the conduct of his business. I therefore recommend that he be relieved from the execution of existing orders and continued on duty as post quartermaster here until further orders. The post is an important one at present, involving considerable disbursements, and I think Lieutenant Dibble well fitted for its requirements. General Wessels desires his retention here for reasons already given, and I take pleasure in recommending it accordingly.

II.—PUBLIC ANIMALS.

The public animals at the post consist of 105 horses and 256 mules. Of these 25 six-mule teams are absent at Fort Reno. They were sent there in May last, by order of Colonel Carrington, United States army, and have never been returned or receipted for, though application has been made to that effect repeatedly. If returned here they will be surplus. I recommend that the proper officer at Fort Reno be directed to receipt to Lieutenant Dibble at once for this property, and the teams be disposed of as circumstances at Reno may justify. Of the balance, 15 six-mule teams and 5 ambulances are held for daily use at Fort Kearney. Ten of the teams are in actual use, and the ambulances are called for in transportation of officers, &c. As all supplies are contracted for, delivered here, I think this transportation in excess at least five teams and three ambulances, and would recommend its reduction accordingly. I think transportation of officers by ambulance most expensive in its way, as see calculations in my report on Fort Leavenworth, p. 15. In addition, there are some 80 horses and mules on hand still that are unserviceable and unfit for issue. I inspected these personally, and, in view of existing orders, directed their immediate sale here to save cost of foraging them. Their sale was ordered here because recent sales show that as good prices can be obtained here as at Leavenworth, and cost of transfer there thus saved besides. With these reductions I do not regard the public animals here in excess. Good corrals and stables exist here. Stabling for fully three hundred animals; and four hundred might be comfortably sheltered on a pinch. The stables need some slight repairs, stalls, &c. but are generally good.

III.—CLOTHING, CAMP AND GARRISON EQUIPAGE.

The amount of this on hand is fully a year's supply, averaging over 500 suits complete, with excess in many chief articles. With present garrison, of course, it is far more. Its condition is good, and it is all well stored in a tolerable building. No complaints about it.

IV.—RAIL AND RIVER TRANSPORTATION.

The post has hitherto been supplied by freight wagons, but its supplies for the season are now mainly here, and hereafter it should be supplied by northern division Union Pacific railroad. This road runs from Omaha here, trains reaching Kearney yesterday for the first time. The distance is reported at 196 miles; distance to Leavenworth, 294 miles. The road runs up the north bank of the Platte, so that the station is across the river and some five miles off; Kearney being on the south bank, about one mile from the river. The Platte is here some two miles wide, being broken up by islands into various streams, all of them shallow, seldom over three feet. The bottom is bad, quicksands, &c., and in the spring during high water the river is sometimes unfordable for a month or so, but usually teams can readily get across. The railroad is being pushed west vigorously. One hundred miles more are under contract, to be done by December 1st, and it is expected that it will reach Fort McPherson by Christmas at the farthest. These facts show the inexpediency, in my judgment, of making Fort Kearney any more of a depot than it is. On the contrary, what I see here confirms me in opinions expressed in report on Leavenworth, pp. 2 to 7, and I therefore beg leave to repeat them here accordingly. I do not see as I can add anything to the strength of the views there advanced at length, and omit further remarks accordingly.

There can be no question that the true base for supplying Kearney, and all the posts on this route, is now Omaha and the Pacific railroad, (northern division.) The wagon contractors are doing their work well, and deserve commendation. But the railroad will save both time and expense, and should be used to its farthest distance. Shifting depots, drawing directly from Omaha, should be established early in the spring, and contracts made to take supplies accordingly as the road pushes westward. Why cannot this be done, to the great advantage of the government?

No transportation by stage is furnished at present, because of the refusal of the stage company to take passengers at the rates fixed at Washington. I think this unfortunate, as occasions frequently arise when it is important for officers and others to go through rapidly. Apart from this I am of the opinion that stage transportation is the cheapest, as per my report on Leavenworth, (page 15,) though, at first glance, it may seem otherwise.

V.—REGULAR SUPPLIES.

(a) *Fuel*.—The only fuel used at the post is wood. This is now being delivered here on contract, a good, merchantable article of hard wood at \$19 per cord. It is cut on Wood creek, some ten miles off, across the Platte, and the price seems excessive, though it is not so in reality in view of the woodless character of the country hereabouts. Last year the supply cost \$30 per cord, through the general mismanagement and extravagance of affairs on the plains, so that the present cost seems not unreasonable. I fear the railroad will not reduce our cost of fuel, as it will consume so much itself. Our only prospect of relief, in my judgment, lies in the discovery of coal or peat. Both of these undoubtedly exist somewhere in this region, as Providence always provides some compensation. But they have failed to appear as yet, though the country has been "prospected" for twenty or thirty miles around, as I am informed. Supposed peat was found by Captain Ladd, but on trial it proved otherwise. I am inclined to think coal will be found on the Little Blue, some seventy-five miles east of here, on the Leavenworth trail. I travelled through the country there in coming here, and many of the bluffs on the Little Blue gave strong indications of coal. Settlers there were of the same opinion, though no mines have been opened yet. The amount of wood on hand here foots up 313 cords.

(b) *Forage*.—The amount on hand foots up 19,509 bushels of corn and 1,000 tons of hay contracted for. The corn costs, delivered here, \$1 53 per bushel. It all comes from the Missouri river, Leavenworth, Nebraska City, and Omaha, the country here yielding only sufficient for its own supply. In fact there are no settlements worth mentioning, the country for miles around being either barren or cursed with countless grasshoppers. In a year or two, if the Indians quiet down, a good source of supply will be found in the valley of the Little Blue, but seventy-five miles or so east. It is rich and fertile, and fast settling up, though harassed this season by Indians. I found many ranches abandoned in coming up it, with the crops going to waste, and heard wild stories of danger. A man or two, indeed, had been killed in July. But I met no Indians, nor any signs of them, except the abandoned country, and I judge a year or two will find the Little Blue dotted with farms. Supplies will then abound there, and I apprehend the inhabitants will be glad to avail themselves of a market here, and will sell grain at even lower rates than the railroad can bring it from the Missouri.

The supply of grain on hand, Lieutenant Dibble estimates as sufficient for three hundred days' supply for all animals on hand. As this includes the surplus animals here ordered sold, and those absent at Fort Reno, I apprehend he has fully a twelve-months' supply. He has asked permission to contract for more, delivered here, but I recommend no more to be accumulated here at present. That on hand is in good condition, but the storage is bad, and much of what is here will be lost if a forage-house be not at once provided. Its only shelter now is pontoon chest planks set on end, loosely framed together temporarily, and covered with odd paulins and tent-flies that nowhere meet. The whole structure would be toppled over by the first gust here were it not for the grain inside. As it is, the rain pours in both at top and sides almost at will. I have called the attention of Lieutenant Dibble to the facts, and recommend that he be furnished immediately with sufficient lumber and carpenters to erect a good and serviceable forage-house. The pontoon material would largely suffice for this purpose, and might just as well be used up as to lie here idle. The train appears to have been sent here several years ago, and the boats are rotting in the sun, having never been put to any use, and probably never will be. The whole establishment is on Lieutenant Dibble's papers, (some 20,000 feet of planking alone,) and I recommend that he be authorized to use it all as above indicated. A copy of order on the subject will be found herewith. I think this forage-house the most important matter just now that Fort Kearney needs. One of the large stables might be used temporarily for this purpose, but General Wessels expects cavalry here this winter, and says he is afraid, therefore, to order the forage transferred to the same.

Hay is supplied on contract, and costs, delivered here and stacked, \$9 75 per ton. It is cut on Grand island, a part of the government reservation here, in the Platte river. Last year it cost \$40 per ton, and I can't understand the great difference, except on the theory of wild and reckless extravagance here and elsewhere on the plains last year, as I have heard and observed, not to suspect worse things. There are five patent mowers here in the quartermaster's department, but it has been thought more advisable to contract for the hay, and I concur in this judgment. The supply on hand foots up 1,000 tons contracted for and yet to be delivered. All forage is received and issued by weight, the post having good scales for that purpose.

VI.—RESERVATION PUBLIC AND PRIVATE BUILDINGS, ETC.

The reservation consists of an area of country ten miles square. It extends to the opposite side of the Platte on the north, to the far Sand hills of the Platte valley on the south, and along the river for ten miles. It embraces all the islands in the Platte here, particularly Grand island, which is valuable as the best and almost only grass and wood land here. The post was established some 18 or 20 years ago, but I can find nothing definite here: no map or other records can be found, though General Wessels, as he informs me, has made full search

for them. He also addressed a communication to the Adjutant General on the subject, but as yet without answer.

The public buildings consist of quarters for commandant, a tolerable house; quarters for officers, very shabby; barracks for three companies, poor; three considerable storehouses for quartermaster's and subsistence stores, all fair; a hospital for twenty men, good; good stabling for 300 or 400 animals, needing only slight repairs, and a lot of *sod* buildings, none of them of much account. They are located in the northwestern part of the reserve, about two miles east of Kearney City, on the reserve line, and two and a half south of the Platte. They are all of frame, mostly cottonwood, except the *sod* buildings above referred to. Their general condition is far from good, and the most of them need lumber and carpentering at once, to prepare them for the winter. General Wessels reports them as very bad when he assumed command here, and his quartermaster has been repairing them as fast as possible; but he has only three carpenters, and can't "make bricks without straw." Major General Pope, when here recently, ordered 100,000 feet of lumber here for general repairs; of this amount, 8,000 feet have been received. I recommend that the balance be pushed forward at once with expedition, and that carpenters be sent here to hurry up the work before winter sets in. As to the forage-house, I have already spoken on page 7, which please see. But a variety of repairs are needed here, and the necessity is immediate and urgent. Now that the railroad is completed to Kearney. I see no reason why the subject should suffer delay. None of "General Sherman's \$1,000,000" for posts on the plains has reached here yet; it should be made immediately available for lumber and mechanics here.

There is no stone for building purposes in this vicinity, and *sod* and adobe cannot be used this season; it is too late for them to harden. No adobe has been tried here, but *sod* has, with only tolerable success. The walls seem thick enough, yet after a year or so they bulge out, and will soon tumble down if not braced up; another fault is their dampness; I incline to think them worthless, except for the most common purposes; they surely will not do for storehouses. I think a lesson may be learned from the settlers here. They use log huts, but roofed with slabs, and cover these with dirt a foot or so thick. I examined many of these while en route here, and found them perfectly dry and serviceable. A little dirt has to be added once or twice a year, but this soon hardens and becomes covered with a dense growth of grass, and the inhabitants assured me it turned rain completely. The *sod* buildings appear first here in the valley of the Platte, but they are tumbling down wherever I have seen them; and I incline to the opinion that the cheapest and most serviceable material here at Kearney is lumber, especially as the railroad has now reached here. The shops of the quartermaster's department here, all very trifling, are made of *sod*, roofed with shingles, and suffice very well; as also the kitchens of the post and some other buildings. I apprehend a dirt roof would be found too heavy for the *sod*.

No map or drawings of the buildings exist here, nor have any been rendered to your office. I have directed Lieutenant Dibble to have maps and drawings made, both of the reservation and buildings, without delay in duplicate, one copy to be sent to you and the other retained here, as a part of the permanent records of the quartermaster's office here. I apprehend he will find a map of the reservation in the United States land office for this district, from which he can secure a copy, and I notified him accordingly.

The troops here, less than one hundred, as before stated, are all occupied with their legitimate duties, so that it will be impracticable to use them for building purposes. There is a good library here, furnished chiefly by the Sanitary Commission, and a room is used for chapel purposes. There is no chapel proper here, and I cannot recommend the erection of one under existing circumstances. The extent of the government reservation here (ten miles square) is beyond reason, in my judgment, and I recommend its reduction accordingly. I suggest that it be reduced to two sections immediately about the post, and the valuable grass and wood islands in the river, and that all the rest be thrown open to pre-emption or sale. I cannot learn that it has ever been officially declared a reservation, but presume, of course that this is so.

VII.—EMPLOYÉS.

The roll of employés foots up seventy men, August 21, at a monthly cost of \$2,905, exclusive of rations and quarters, both of which, of course, are furnished. Of these, forty teamsters will be discharged as soon as the absent train at Reno is disposed of. This will leave but thirty men, which I do not deem in excess from what I see here. They are quartered in tents and rough *sod* buildings, and many of them live in their wagons. Should the post be maintained permanently, something should be done in the way of quarters for employés, but there is no time for this this season. The employés struck me as a good body of men, and as kept busily engaged.

VIII.—FIRE DEPARTMENT.

No precautions whatever exist here against fires, and inflammable oils, as usual, were stored in the midst of main warehouses. So the post wood-pile was near to the storehouses, and light kindling material in considerable quantity between even this and the storehouse. I directed the immediate removal of all these. There are several wells here in daily use, but

no pumps in them. These wells are only a few feet in depth, and common iron pumps, such as are in use at Leavenworth, would render them sufficiently serviceable against fires here I think. I directed Lieutenant Dibble accordingly to make requisition for such pumps; also to distribute barrels and buckets of water among all the main buildings, storehouses, &c.

IX.—CEMETERY.

The post cemetery, perhaps a third of a mile west of the fort here, embraces about an acre. It contains some thirty graves, as nearly as can be ascertained. These have been located without system, and higgledy-piggledy, as the occasion happened. Lieutenant Dibble has recently enclosed the grounds with a substantial paling fence, and is about having this white-washed. I have instructed him verbally also to systematize the burials hereafter, and to mark each grave with headboards, &c., in accordance with existing orders. A report on this cemetery was forwarded to you by Captain Ladd, late assistant quartermaster here, as I am informed, some weeks ago.

X.—ACCOUNTS.

Lieutenant Dibble had no accounts for July, as he only entered on duty here August 1. His cash on hand August 21 footed up \$11,087 83, of which \$9,446 58 was on deposit with United States treasury at St. Louis, and balance in safe. The latter was found to be correct. He has two good office clerks, who were here with Captain Ladd, and he himself is a bright young fellow, who will soon make a quartermaster if he has a chance.

XI.—MISCELLANEOUS.

1. I have already spoken of the pontoon train here; but there is a matter connected with it that I think needs attention. Of the fourteen boats it consists of, eight are a hundred miles from here, on Loup Fork, a branch of the Platte. It appears, from what I can learn here, that some time in 1865, a Colonel Heath, of the 7th Iowa cavalry, then in command here, made a contract himself with certain Messrs. Becker & Becker that the government would furnish these boats and accompanying materials for a ferry at Loup Fork, Becker & Becker to put them down and run the ferry; to charge citizens what rates they pleased, but to pass government trains, &c., free; the government to furnish a military force sufficient to protect the bridge. It seems to be a onesided, not to say suspicious, arrangement at best, as no government trains ever pass that way, and Lieutenant Dibble and General Wessels have both spoken to me of it. I have not been able to get at a copy of the contract here, as the contractors seem to have the only one, and nobody knows where they are. The above facts I have obtained from hearsay here, but they seem to be reliable. I am impressed with the belief that the whole affair is an unauthorized use of public property, not to speak more severely of it, and I recommend that the contract be annulled, and the boats at Loup Fork sold at public auction without delay. As it is, the quartermaster here is now responsible for them, but without any control over them. The matter, I have been informed, has been reported to General Easton, but no answer received as yet.

2. There is a large amount of unserviceable and worthless property here, which I think should be condemned and sold without delay. It consists principally of wagons, &c. They stand here without shelter, shrivelling and warping in the sun, and the sooner they are cleared out and the post rid of them the better, in my judgment. I recommend their disposition thus accordingly.

3. The general condition of the post is rapidly improving, thanks to the commandant and quartermaster. It seems to have been bad, as General Wessels reports it was when he came here; but it is coming up, and its police condition especially is excellent.

4. There is no file of General Orders, Quartermaster General's Office, here, and scarcely any of the orders. I recommend that full files be sent immediately.

RECAPITULATION.

I. I commend Lieutenant Dibble as an intelligent and energetic young officer, and recommend him to be continued on duty here as post quartermaster. (See pp. 1, 2.)

II. I recommend that the transportation here be reduced to ten teams and three ambulances; all surplus property to be transferred or sold. (See pp. 2, 3.)

III. I recommend that the railroad here be used to its utmost distance next season, by the establishment of shifting depots, as on military roads. (See p. 4.)

IV. I recommend that the pontoon material here be used for general purposes of the quartermaster's department, for repairs to buildings, &c. (See p. 7.)

V. I recommend that mechanics and materials be sent here immediately to erect a forage house, and make necessary repairs to other buildings, before winter sets in. (See pp. 9, 10.)

VI. I recommend that the government reservation here be reduced from ten miles square to two sections, immediately about the fort. (See p. 11.)

VII. I recommend that sufficient pumps be sent here to equip all the wells as a precaution against fires. (See p. 13.)

VIII. I recommend that the contract with Becker & Becker, allowing them eight pontoon boats, &c., gratis, be annulled, and the boats sold at public auction. (See p. 15.)

IX. I recommend that all the unserviceable wagons, &c., be condemned and sold, so as to rid the post of useless material. (See p. 15.)

X. I recommend that full files of orders Quartermaster General's office be sent here, as none are here now. (See p. 15.)

Copies of orders issued while here please find herewith. I leave to-morrow for Fort McPherson by stage; thence I go to Fort Sedgwick, and thence to Denver, also by stage. I expect to leave Denver by September 10, at the furthest, and perhaps before. This will bring me to Salt Lake by September 15, and I shall leave there by the 20th or 22d.

In conclusion, I am, ganeral, very respectfully, your obedient servant,

JAMES F. RUSLING,

Colonel and Inspector Q. M. D., B't Brig. Gen.,

Brevet Major General M. C. MEIGS,

Q. M. Gen. U. S. A., Washington, D. C.

A true copy:

JOHN V. FUREY,

Brevet Major and A. Q. M.

OFFICE INSPECTOR QUARTERMASTER'S DEPARTMENT,

Fort McPherson, Nebraska, August 25, 1866.

GENERAL: I have the honor to announce my arrival here yesterday, and beg leave to submit the following report relating to affairs of quartermaster's department here:

Fort McPherson is situated on the south bank of the Platte river, on the great overland emigrant and stage route, ninety-five miles west from Fort Kearney, and one hundred miles east of Fort Sedgwick. It is two miles east of the stage and telegraph station at Cottonwood Springs, and hence, until recently, has been called "Cottonwood Post," being so designated in my orders. It was established here in 1863 by volunteer troops then stationed in this vicinity, and at first was intended as only temporary winter cantonments, though it afterwards became a permanent post. The garrison here now consists of two companies of 2d United States cavalry, together about one hundred and sixty men, with sixty-five serviceable horses, and the fragments of two companies of the 5th United States volunteers, about thirty-five men more. Its duty is to overawe the Indians, principally Sioux, in this region, and protect the settlers and overland route as far as necessary. The work of the quartermaster's department is to supply the post here and make small issues to passing trains and detachments. Last winter it also supplied Fort Sedgwick with wood, but hereafter Sedgwick proposes to supply itself.

I.—OFFICERS.

The post quartermaster (also serving as assistant commissary of subsistence) is Second Lieutenant George W. Yates, 2d United States cavalry, and acting assistant quartermaster. He has only been serving as such for a month or two; but the condition of affairs here speaks well for his energy and efficiency, and I beg leave to commend him accordingly. In my judgment and that of the post commander, Brevet Lieutenant Colonel Misner, 2d cavalry, he will serve the department here well.

II.—PUBLIC ANIMALS.

These foot up twenty-four horses and one hundred and thirty-eight mules. The horses are not in excess; but of the mules there are fifteen six-mule teams, of which but eight are in daily use. I think the number in excess, as all supplies are contracted for, delivered here, except fuel, which has been contracted for at twelve miles' distance cut and corded there—unwisely, as I think. I recommend a reduction of the teams immediately to not exceeding ten, which ought to suffice for a post of less than two hundred men, even if they have to haul wood twelve miles, the roads here being good nearly all the year round. The surplus teams should be sent east and sold there before winter sets in. Leavenworth would be the better place. The animals are in excellent condition. A corral has just been completed for them, two hundred and fifty feet long by two hundred feet wide. It is built of cedar logs, with sheds on three sides, made by covering slabs with earth and sods. The logs will also be chinked with slabs, &c., before winter sets in. It will hold twenty-five six-mule teams complete, with room for wagon park in centre. It was a very necessary structure here, and was authorized by the Secretary of War.

III.—CLOTHING, CAMP AND GARRISON EQUIPAGE.

The supply comprises about one thousand suits substantially, as per reports herewith. It is mostly good, though some has been damaged by getting wet in crossing the Platte. The latter had better be sold here, as citizens will buy it readily. The stock is unduly large for

McPherson, and the same may be said of its subsistence stores, of which there is a year's supply for nine hundred men. The character of the clothing is good; no complaints.

IV.—RAIL AND RIVER TRANSPORTATION.

As stated in my report on Fort Kearney, the Pacific railroad (northern division) now reaches Kearney, and is expected to reach here by December 1. It is graded to within thirty miles of here now, and a heavy force of men is at work upon it, laying from one to two miles daily. This road runs along the north bank of the Platte from Omaha westward, and crosses the north fork of the Platte some twelve or fourteen miles west of here. It will leave Fort McPherson four or five miles to the south, with the Platte between, which just now is not fordable, and they say here is often so throughout the year. I think this road should be used to its utmost extent on the opening of next season, but forbear to speak further of this in view of what I have said in my report on Leavenworth, page 2 to 7, which please see. My further observation confirms all that is there said at length.

No transportation is furnished by stage, for reasons stated in my report on Kearney, page 5, which please see.

The contractors on this route are doing their work well, and deserve much commendation. I hear no complaints anywhere. No supplies are sold to them. Just now they are embarrassed here by the high state of water in the Platte, which prevents their teams crossing to McPherson; but they have large quantities of supplies on the other side, and will deliver them as soon as the water recedes. There is no deficiency here now, however.

The general method of supplying the post is a contract by the pound or job; and this is undoubtedly the true one, after all has been said against its disadvantages. These exist, of course, but are more than overbalanced by its positive and economic advantages. The only exception is the contract for wood, before alluded to, (page 2.) which I think reprehensible on the same principle that it is false economy to run government trains from the Missouri here. The contract for hay even is for delivery here; and yet the contract for wood is for delivery twelve miles off, whence government teams must haul it here. I cannot understand why such inconsistent action should prevail, and no reason is given for it here, except that it is a good thing to have plenty of teams about, "*as they may be needed.*" I am unable to see how, if the post is supplied in time, as it will be with systematic effort. Hay here will be had cheap; but grain costs seventy-four cents per bushel at Omaha, and about two dollars and fifty-two cents more for transportation here, making total cost three dollars and twenty-six cents per bushel; private parties supplying themselves at two dollars and two dollars and twenty-five cents per bushel, as Lieutenant Yates informs me, buying in open market, so that this wood contract *must* be a losing job to the government. From observation, here and elsewhere, I am convinced the contract system is the true one for the quartermaster's department, and recommend its adoption in all things practicable. I have no doubt the government would save from one-third to one-half by it everywhere.

V.—REGULAR SUPPLIES—FUEL AND FORAGE.

(a) *Fuel*.—Wood on hand consists of 485 cords, and has cost \$12 per cord, delivered here. Bids were opened to-day for 1,000 cords, to be cut and corded within twelve miles of the post; the lowest is \$2 94 per cord, which has been accepted. This seems low, but when all items of transportation here are considered, the cost will be found over \$12 per cord; hence my objection as above. I advise against all such contracts hereafter.

There does not appear to be any coal or peat in this region. No special examination has been made, but the geological character of the country and the opinions of the settlers affirm this. The wood comes from the government reserve, and is found in the numerous cañons that abound among the sand-hills here. The Platte bottom also furnishes some little.

(b) *Forage*.—The supply of forage on hand is small; 25,000 bushels of grain have been estimated for as a year's supply. Of this, only about 4,000 bushels of grain have been received; more is expected here soon. This grain costs seventy-four cents per bushel at Omaha, and the contract price of transportation here is about \$2 52 more, making total cost per bushel \$3 26, delivered here. It is of good quality, but Lieutenant Yates says he can purchase the same quality here in open market, of the general freighters, at \$2 and \$2 25 per bushel. I doubt if he could procure his full supply at that rate, but give the fact as he states it. The present grain-house is an old stable, that does very well for summer, but would be bad for winter. The new quartermaster's storehouse now going up will obviate this.

VI.—RESERVATION, PUBLIC AND PRIVATE BUILDINGS, ETC.

The reservation here is unsettled in its character. It was first established in 1864, by Special Order No. 122, headquarters district of Nebraska, of that year, subject to the approval of the Secretary, whose action in the premises is unknown. The area thus fixed was an irregular parallelogram, thirty miles east and west by fifteen north and south, bounded by the Platte on the north, but embracing the islands in it, because of their grass qualities. Its great extent was chiefly for the purpose of taking in the best timber here, and was unfortu-

nate, as it comprised land already occupied by actual settlers. During the past year, by an order from headquarters of Major General Pope, which I am unable to specify, the reserve has been reduced to a space four miles square, but specially reserving grass and timber in certain localities. I can learn of no action of the Secretary as to this. Is not this still in excess, and why should the government hold on to such grass and timber lands? Is it not our true policy to encourage settlements, and thus do away with the necessity of posts here at enormous cost? To keep them with the view of doing our own work, I am satisfied is a mistaken notion, and, in view of all the facts, I recommend that the reservation here, if the post continues, be reduced to not exceeding two miles square, reserving besides sufficient grass land on the islands to furnish summer pasturage.

The post proper comprises about four acres, with parade ground in the centre, commandant's quarters on the north, officers' quarters on the east and west, and barracks for the men on the south, and also partly on the east and west. The storehouses, stables, &c., are still to the south of these. The commandant's quarters is a small frame building, just completed; it was erected without adequate authority, but was so urgent and imperative a necessity that I recommend its erection to be approved. The officers' quarters are poor, but will suffice temporarily. They consist of log cabins, roofed with slabs covered with earth, but tolerably floored; the roofs require constant tinkering to keep them water-tight, and even then insects are continually boring through the earth and thus letting dirt down inside. The barracks for the men are not only insufficient for three companies, though this has been called a four-company post, but are really unfit for service in times like these. They are without floors, are low, and crowded, with no provision for ventilation, and are beset with fleas and other vermin. They consist of log huts, chinked and roofed with clay, and ought to be torn down and replaced with better buildings, without delay. The storehouses now occupied are very insufficient, but two new ones are going up, on order of the Secretary of War, one for quartermaster's and the other for subsistence stores, each one hundred and thirty feet long by thirty feet wide and twelve feet high. These will be made of cedar logs, chinked, with shingle roofs, and will be done by September 30. They are expected to hold all stores here for a twelve-months' supply, and I judge will do so with partial use of the old storehouses, which will suffice for temporary stores. These two new storehouses are an absolute necessity here, and their erection will be a great gain. The present stables are wide structures covered with dirt, and suffice for eighty-seven horses. The hospital is a good frame building, with a capacity of twenty-five patients, and will suffice as it is. Our employes are also accommodated there.

Lieutenant General Sherman, when here a few days ago, condemned the public buildings in general, and directed Colonel Misner to report all the facts to General Cooke, commanding department of the Platte. He did so on the 23d, sending him a plan of the post as it was, and another of the post as he proposed to make it. The latter included the erection of quarters and barracks for two full companies, with stables for 160 horses, and some other slight alterations. A detailed estimate of cost was enclosed, which foots up \$18,165. The same day similar papers were sent by Lieutenant Yates to General Easton, chief quartermaster military division Mississippi, and I recommend that the work be ordered immediately. A copy of said estimate is herewith enclosed. The improvements are essential to the health and comfort of the post, and no portion of "General Sherman's \$1,000,000" can be better appropriated, so far as I have seen. If ordered, they should be pushed with vigor, as cold weather will soon be here.

In making this recommendation I do not forget the fact that this is probably the last year Fort McPherson will remain here. As remarked on page 4, the railroad will be here by December 1, or about that time, and, pushing west on the north bank of the Platte, will cross the north fork of the Platte about twelve or fourteen miles west of here; thence it will follow the South Platte to near Fort Sedgwick, whence it will ascend Lodge Pole creek, and so westward. The true point for McPherson, therefore, in my judgment, is the place where the railroad crosses the North Platte; from there the great trail to Fort Laramie branches off up the north bank of the North Platte, and that whole region will be supplied from that point for some time to come. In this opinion Colonel Misner concurs and others here. I therefore recommend that only sufficient work be done here to carry the post through the winter, and that the whole establishment be removed to the point referred to early in the spring. The work now being done is with a view to that result, and the buildings hereafter erected should be made so as to be readily taken down and re-erected. No examination has been made of the ground near the locality referred to, so that I am unable to report its condition. Were the Platte fordable I would visit it in person. But I have no doubt an excellent site can be selected there for all post purposes. The reasons for the transfer of Fort McPherson to the point alluded to are so obvious that I forbear to state them further.

There is no building-stone in this locality, and adobe has not been tried; sod buildings have been used to some extent, but they have proved unserviceable. The timber here is sufficient to erect all necessary buildings, and I recommend its use in preference to all other materials just here. Adobe might do, if there were troops here to do the work; but, all things considered, I believe frame buildings to be the cheapest here. A steam saw-mill, sixteen horse-power, is now sawing lumber here at the rate of 1,500 feet per day, at a cost

to the government of about fifty dollars per thousand for boards and twelve dollars per thousand for shingles. The material used is principally cedar, which is found in considerable quantities in the neighboring cañons, though some is cottonwood. The logs are cut and delivered here on contracts, approved by General Easton; but the mill is owned and run by the quartermaster's department with soldiers principally.

No map of the reservation exists here. No report of the buildings has been made to your office that I can learn of; I have therefore directed Lieutenant Yates to forward same without delay, retaining duplicate copies for his own office.

VII.—EMPLOYÉS.

The roll of employés foots up forty-one men, at a monthly cost of \$2,095. There are also thirty-two soldiers detailed on extra duty, at a monthly cost of \$276; making the total cost of the post in this respect \$2,371 monthly. I do not think they can be reduced at present, except in the matter of teamsters, if the teams are reduced, as recommended on page 2. All are now busily at work on the required buildings here, and others are needed to put the post in serviceable order before winter sets in.

VIII.—FIRE DEPARTMENT.

The only protection of the post against fires are two deep wells on opposite sides of the garrison. These are without pumps. A new well is being dug near the canal. I found inflammable oils in the main warehouse as elsewhere, and the wood yard too near the warehouses and corral. I directed Lieutenant Yates to remove these to more isolated places, and to station barrels and buckets of water throughout his storehouses, &c. I also directed him to make requisition on your office direct for sufficient patent pumps to equip all the wells, and I recommend that the property be sent here immediately. In case of fire there is practically no defence here now.

IX.—CEMETERY.

The old post building ground is an unclosed space, buried over irregular, imbracing an acre or more of the sloping side of a sand-hill, an eighth of a mile or so southeast from the post. A new one has just been laid out on a fine plateau on the top of a bold bluff, a quarter of a mile southwest from the post. No better selection could have been made. A plan for interments has been prepared, and the materials for a paling fence are almost ready. To this the previous interments, about fifty, will be removed. This new cemetery will embrace an acre or so of land, and I have directed a report on the same to be sent to you as soon as it is completed.

X.—ACCOUNTS.

The accounts of Lieutenant Yates had been rendered for July. With slight exceptions they were correct. His cash on hand August 24 consisted of \$9,532 09, of which \$3,955 94 was on deposit with the United States treasury at St. Louis; balance examined and found correct.

XI.—MISCELLANEOUS.

1. There is no file of your orders at the post, and very few of the orders themselves. I recommend that full files from 1861 be sent here immediately for the permanent use of the office. This is essential.

2. The general condition of the post is good and improving, as is very apparent at a glance here. It reflects credit in all respects on both commanding officer and quartermaster. I beg leave to commend them accordingly.

RECAPITULATION.

1. I commend Lieutenant Yates, post quartermaster, as an intelligent and energetic young officer. (Page 2.)

2. I recommend that the post teams be reduced to ten—the surplus to be sent east and sold. (Page 2.)

3. I recommend the adoption of the contract system in all things practicable. (Page 5.)

4. I recommend the large reservation here to be reduced to two miles square, if the post be continued, reserving certain grass islands in the Platte. (Page 8.)

5. I recommend that the necessary work on the buildings here, to render them comfortable for the winter, be pushed with vigor. (Page 10.)

6. I recommend that Fort McPherson be broken up in the spring and transferred to the north bank of the Platte, to the point, twelve or fourteen miles west of here, where the Pacific railroad crosses the North Platte. (Pages 10 and 11.)

7. I recommend that sufficient pumps be sent here to equip all the wells as a necessary precaution against fires. (Page 13.)

8. I recommend that full files of general orders from your office, from 1861 to date, be sent to Lieutenant Yates for permanent use of quartermaster's office here.

Copies of orders issued while here, and referred to in the above report, please find here-with

In conclusion, I am, general, very respectfully, your obedient servant,

JAMES F. RUSLING,

Brevet Brigadier General, and Inspector Q. M. D

Brevet Major General M. C. MEIGS,

Quartermaster General U. S. A.

A true copy:

JOHN V. FUREY,

Brevet Major and Assistant Quartermaster.

OFFICE INSPECTOR QUARTERMASTER'S DEPARTMENT,

Fort Sedgwick, Colorado Territory, August 30, 1866.

GENERAL: I have the honor to announce my arrival here, August 28th, and beg leave submit the following report, relating to affairs of the quartermaster's department at Fort Sedgwick, Colorado:

Fort Sedgwick (formerly Julesburg) is situated on the south bank of the South Platte, on the main overland route to the Pacific via Denver, one hundred and ten miles west of Fort McPherson, and one hundred miles east of Fort Morgan. The distance to Fort Laramie is one hundred and seventy-five miles northwest. Julesburg is four miles east, and is only a small collection of sod, adobe, and frame buildings, with perhaps fifty inhabitants. The location of the post is at what is called here "the upper crossing of the Platte." There are three fords of the river here, within five miles, where the main trains for Forts Laramie, Reno, &c., cross the Platte, and strike north for that region; and the main travel for Utah also crosses here, and goes hence up Lodge Pole creek to Big Laramie, Fort Halleck, and so west. The bulk of the Utah, Idaho, Nevada, and California travel thus crosses here, though the mail and passengers go via Denver. I had come here with the impression that Sedgwick was of no use, and expecting to recommend its abolishment; but on looking into the facts here, chiefly as above stated, I have changed my mind, and now am of the opinion that it is the most important point on this route that I have found since leaving Leavenworth. It is true that there is no population here, and that the post is a very costly one; but the Indians infest the country thirty miles east and fifty miles west, and would menace the travel at this point were it not for the post here. As the railroad passes west of here the importance of the post will decline, but not until it has reached a point sufficiently far west to justify the overland travel in selecting some new point for departure. The present garrison here consists of one company 18th infantry, one company 5th United States volunteers, and a small detachment 2d cavalry; in all, less than fifty men present for duty; two companies 6th United States volunteers are guarding route to Fort Laramie, and escorting the surveying party of the Pacific railroad. These also depend on Fort Sedgwick for supplies, but are less than fifty strong

I.—OFFICERS.

The quartermaster on duty here is Brevet Colonel R. C. Webster, assistant quartermaster volunteers. Of large experience in the east, during the progress of the war, he has brought to his work here a zeal and efficiency that few officers possess. The condition in which he found affairs here it would be difficult to describe. Suffice it to say that almost everything was to be provided in the depth of winter, and that commanding officers here sought rather to embarrass and injure than cordially to sustain him. In previous reports I have intimated my convictions as to the extravagance, not to say worse things, in which affairs on the plains generally, a year ago, were conducted. They seem to have culminated at Fort Sedgwick, and Colonel Webster appears to have been regarded as an interloper, who had no business to come here and interfere with existing arrangements. A Major Davids, of the 7th Iowa cavalry, and Colonel Heath, same regiment, were no doubt corrupt, bad men, who should have been dismissed the service long before they were. Their command, and volunteer troops generally out here, seem to have lost all *esprit du corps* after the war closed, and to have cared for nothing but to make money and "have a good time." When Colonel Webster set his face against these things, they sought to remove or ruin him, and he deserves unqualified commendation for what he has done to antagonize them and protect the public interests here. How far he has done this no one can understand until he comes here and sees for himself. I myself came here, I confess, not satisfied with his administration of affairs, from what I had heard elsewhere. But after a full and minute inspection of his operations and a thorough examination of his office, letter-books, &c., much more so than I ordinarily make, I am compelled to change my preconceived opinions, and to bespeak for him the kindest consideration of the department. My wonder is that he has succeeded at all, in view of past affairs here; and he has succeeded so well, all things considered, that I deem it my duty to recommend him for promotion and transfer to the regular army, should he so desire. In support of the above, please see report hereafter.

II.—PUBLIC ANIMALS.

These consist of sixty-three horses and four hundred and sixteen mules. Of these fifteen six-mule teams, three two-horse wagons, and two one-horse carts are in daily use for local post purposes. Outside of these there are also forty-one six-mule teams on hand as supply trains. The rest of the animals are to meet contingencies. I think ten teams should suffice for a post like this, when all the supplies are delivered here on contract, and I recommend their reduction accordingly. The supply trains (forty-one teams) have been rendered superfluous by contracting for hay and wood, delivered here recently, and they await orders. It is important that they be disposed of immediately, as grain is too costly here to keep them unnecessarily at Sedgwick. I recommend that all the animals, except sufficient for ten post teams and some to meet contingencies, be ordered to Omaha for sale or transfer, according to the wants of the department. The surplus animals are now herded and grazed; still some grain is being fed to keep them in condition, and the post should be rid of them as soon as practicable.

III.—CLOTHING, CAMP AND GARRISON EQUIPAGE.

This consists of fully 1,000 suits, with excess of many articles. The supply is intended for a year's supply for seven full companies, but the garrison, as I have said, with its dependencies, foots up less than 100 men. The stock is therefore greatly in excess, and no more will be needed here for a long time to come, unless the garrison be increased. Indeed it would be well to order one-half of it to other points north or west, should they need clothing, &c. Its condition is good, and it is all well housed.

IV.—RAIL AND RIVER TRANSPORTATION.

All supplies are delivered here on contract, either by the cord, ton, or pound. The contractors are doing their work faithfully, and do not ask for any supplies. Last winter, soon after Colonel Webster arrived here, in order to supply the post with fuel, it was found necessary to issue rations and forage to contractors to secure fuel at all. Even then it was very difficult to do so; yet the Major Davids before referred to, (page 3,) then in command here, without inquiring into the facts, assailed Colonel Webster in a private letter to Brevet Major General Wheaton, commanding department, and General Wheaton was so unmilitary, not to say unwise, as to credit his statements without first hearing the other side. An investigation was ordered, when it appeared that Colonel W.'s action was not only absolutely necessary, but that he had taken the precaution beforehand to secure the order of General Easton, chief quartermaster, who fully approved his course. I give this as only one instance of the malignity and cowardice with which Colonel Webster has had to contend, as the proper course would have been to prefer charges had the complainant been actuated by a soldierly or manly spirit. Since then, however, the contractors have supplied themselves, and it is not now anticipated that they will call for anything.

The Pacific railroad (northern division) passes west on opposite side of the Platte, and it is unfortunate, in some respects, that the post is not located there. Yet the main travel is on this side, and for the present at least the post should be here. From this point the road goes up Lodge Pole creek, and so west, as stated at length in my report on Fort McPherson. I forbear to speak further of it in view of what I have said in previous reports. Until it reaches here this post will have to be supplied by wagon train, and its true base is the terminus of the road primarily and Omaha secondarily.

No transportation is furnished by stage, for reasons stated in my report on Kearney; but officers and detached men are forwarded by ambulance, as no army trains go now; and the expense is very heavy when all the items are considered.

V.—REGULAR SUPPLIES—FUEL AND FORAGE.

(a) *Fuel*.—The supply of wood on hand consists of four hundred and fourteen cords. This has been delivered here chiefly by government teams, hauling from Cottonwood, one hundred and ten miles, or Mud Spring, sixty-six miles north of the Platte, and costing, all items considered, from \$75 to \$100 per cord. During the winter some cost as much as \$105 per cord, and the quartermaster ought to have been cashiered who put off getting his supply until that time. Colonel Webster found government wagons hauling it here from Cottonwood and Mud Spring at these frightful rates, and even then hauling but one-half or three-quarters of a cord to a wagon when delivered here. He promptly had wood-racks made, which increased the loads to two cords per wagon, and sometimes more. Recently, in pursuance of authority from General Easton, he has made a contract for eight hundred cords, to be delivered here, at \$46 per cord. This wood comes from Denver, one hundred and eighty-five miles west, brought here by return freight trains. This is less than General Ingalls intimates in his letter of July 11 to you, from Denver, the substance of which was furnished by you to General Easton, and by him to Colonel Webster, he (General Ingalls) putting it at \$50 per cord, as a fair price delivered here. I think this the best that can be done here, large as it seems, though small amounts can be bought in open market for ready money at rates somewhat

less. None of this eight hundred cords has yet been delivered, but it soon will be, and this, with the stock on hand, will carry the post through the winter and more.

No coal has yet been discovered in this vicinity; but peat exists to some extent. Colonel Webster has found one bed, about five acres in size and eighteen inches deep, not over a mile from the post, on the reserve here. It is not of first quality, but it will do, with some wood. He has called for a peat machine, which is now *en route* here; but he does not expect to make the deposit available this season. Next season it will be largely used. He estimates that its cost will be only about one-quarter that of wood, while it will go twice as far, thus making its use a great saving here. He thinks other beds of peat may be found, especially on the north bank of the Platte, and will push his inquiries as soon as present bed has been made available.

No wood grows for miles around here fit for fuel; indeed, I did not see a tree for fifty miles in coming here, and the country west is equally barren.

(b) *Forage*.—This consists of 56,433 bushels, chiefly corn, and no hay worth mentioning. The grain is a supply for fully fifteen months, for all animals now here, and much more, of course, if the animals are heavily reduced, as recommended on page 5. This grain, with much more, was received here last fall and winter, previous to Colonel Webster's arrival here, and cost the department, delivered here, about six dollars and seventy cents per bushel. It could be delivered here now at about four dollars per bushel, taking the rates current at Kearney and McPherson. Why it was ever sent here in such great amounts Heaven only knows; I cannot imagine. Why it has not been ordered elsewhere rather than ship fresh supplies from the Missouri, as I found to be the case at Fort McPherson, is equally mysterious to me. A considerable amount of it, some 2,600 bushels, has already spoiled, and been condemned as worthless, to be sold, &c. Another large amount, some 18,000 bushels, lies piled up under paulins, for want of something better, and has lain there all winter and summer, subject to the weather and mice, that have both made large demands upon it. Many of the sacks are wearing to pieces, and quantities of it run out on the ground every day. Colonel Webster gathers this up and feeds it to his stock, and mends the sacks as far as possible; but many of them are worn out by repeated handling. All of this corn should at once be ordered elsewhere, or, it not wanted because of ample supply at other posts, should at once be sold as surplus where it is. With proper advertisements in the Denver papers, it would bring something, whereas the great bulk of it will be lost here. The balance of the corn, about 35,433 bushels, is securely housed in two frame warehouses, and should be retained for current use and issue here. It is all apparently in good condition, but has been stored there since last fall, and needs overhauling, which would have been done ere this, had the force of employes on hand been sufficient to do it. Colonel Webster expects to do it soon.

In addition to the above corn considerable has been shipped to Fort Laramie and other points, about twenty thousand bushels; but it may be that all the posts in that region have been similarly overstocked last year. If so, some one ought to be held to a severe accountability for such reckless and gross squandering of costly public property. No grain is produced in this country, and none will be for years to come.

The hay on hand, as I have said, is small; but 1,500 tons have been contracted for, delivered here at thirty-four dollars per ton—a year's supply for all animals present at post. This is cut on the north bank of the Platte, from ten to twenty miles away, as all grass on this side near the post has been consumed by passing trains. Three mowers and two horse-rakes belonging to the quartermaster's department are allowed to the contractors. General Ingalls's letter says that hay can be put at Fort Sedgwick, as he thinks, "for twenty dollars per ton." Colonel Webster says that the bidders, who were Denver men, thought so too until they came down here, supposing the hay could be cut on the south side of the Platte near the post. But when they found they would have to go to the other side and a long distance off, they doubled their bids, and so were underbid by other parties. The contract last year was for thirty-five dollars per ton; but the contractor backed down, and the quartermaster afterwards consented to receive it at that figure twenty miles off. Subsequently, in the winter, rather than let the animals perish, seventy-five and eighty dollars per ton were paid. Nevertheless, I think the price now agreed on (thirty-four dollars per ton) too high, in view of the price paid at Fort McPherson, eight dollars and seventy-five cents per ton, and at Fort Kearney, nine dollars and seventy-five cents per ton. At both of these points it is cut on islands in the river, and has to be transported some four or five miles by the contractor. Here the distance is greater, the river worse crossing, labor dearer, and the expenses generally much heavier. Still, I am not satisfied with the great difference in the prices, and would recommend the contract to be annulled, were not the season so far advanced. As it is, a supply must be had; and as Colonel Webster insists that he has made the best bargain possible, and ought to know best, as he is here on the spot, I hesitate to do more than merely thus report the facts for your information and action. If you decide to reduce the animals here, as recommended on page 5, of course all the hay contracted for will not be wanted, and I suggest that you telegraph Colonel Webster accordingly to stop receiving hay, except enough for the then reduced number of animals. None worth mentioning has yet been received, and your telegram will be in time to save something, as the last is not to be delivered until November 1. I am not sure that I have done this contract justice. Since writing

the above I have talked with citizens here and inquired more fully into the facts, and am inclined to sustain Colonel Webster in his action.

VI.—RESERVATION, PUBLIC AND PRIVATE BUILDINGS.

The reservation here is eight miles square. It was established by Special Order No. 122, headquarters district of Nebraska, 1864, subject to approval of Secretary of War; but the action of the Secretary is unknown here. It embraces both sides of the Platte, so as to secure the bottom land for grass and hay, and also covers some soft calcareous limestone, unfit for building purposes. No map has ever been sent you, though one was furnished to General Easton some months ago. I have directed one to be sent you without delay. I recommend this reservation be reduced to two miles square, for reasons stated in previous reports, reserving sufficient pasture lands.

The post proper comprises the usual parade ground, some four or five acres square, around which it is intended to place the garrison buildings, and other ground covered by various buildings, some eight or ten acres in all. I transmit herewith a report and map showing the present buildings, their dimensions, &c., and those proposed. As will be seen, the only buildings now here are three company barracks, and the usual storehouses, shops, &c., with no officers' quarters at all except two buildings erected for the quartermaster, and his office, but now occupied by the post commander and a married officer. The barracks and the last building referred to are of adobe; the storehouses are fair frame ones; the rest of the structures are sod. The roofs are all shingles except those of the sod buildings and two of the company barracks, which are dirt. Shingles are about being substituted on the company barracks, as the pitch of the roofs is too great for dirt. A hospital of adobe, capacity twenty patients, is going up, and will be completed before cold weather. Its plan provides for extension to forty patients when necessary. The present hospital is an old sod building, with leaky roof, and very unsuited for its purposes.

The barracks are sufficient for the troops now here. The storehouses are ample for all necessary supplies, though insufficient for the great redundancy now here. In this respect I have already spoken of forage, (page 10.) So I would speak of subsistence stores, of which, I am informed, there are now here fully 250,000 rations. I am aware that I am not inspecting for the commissary department; still, in discussing storehouses, I feel I am justified in reporting the great excess of subsistence here, condemned as it is by all officers at the post. The subsistence storehouses are crammed to repletion, and even then considerable is out of doors. The amount given, you will observe, is over two years' supply for three full companies, three hundred men; whereas the present garrison is less than fifty men—not over one hundred with all details in.

In the matter of quarters for officers, however, the post is woefully deficient, and extra exertions should be made to provide these before winter sets in. No blame is imputed for not providing them before, as the first thing requisite was shelter for the troops and stores. Colonel Webster has urged the matter repeatedly, as I find by his letter books, but it was only to-day that he received authority from General Easton to call on General Myers, at Omaha, for one hundred additional men to push these buildings forward. For materials he had decided on adobe, made here, with board floors and shingle roofs. I think his decision wise. I have examined sod buildings carefully from Kearney here, and am convinced that they are unfit for quarters where anything else can be had. The sod requires to be selected and cut with care; the walls, to be firm, should be at least three or four feet thick at the base, running to two feet at the top; their height must not be over five feet, or six at the furthest; the roof must be supported by stout timbers, not only along the ridge, but also about all the walls, and must project from one to two feet over the walls to protect these from the rain. To make the walls secure, they must also be plastered inside and out. If the slope of the roof is too great the dirt soon wears away, and in all cases has to be frequently replenished. Moreover the buildings are afflicted with dampness, and are infested with fleas to an extent that an eastern person can scarcely conceive of. Besides all this, they do not last more than from five to six years, after which they begin to bulge out and tumble down, and require constant repairing. Many of them have fallen to pieces at points on the road here, and I heard of several instances where persons were crushed to death by the caving in of the walls or roof.

Adobe costs somewhat more, but is better in all respects. As made here it is a sun-dried brick, sixteen inches long by eight inches wide, and four inches thick. Colonel Webster has three rude mills at work making these; the material is sand and clay, found here, in the proportion of two-thirds sand and one-third clay, mixed with water, and tempered by grinding through the mills referred to. Moulding is done by hand, and a fortnight's drying in the sun makes the adobe fit for use as brick. It is then run up into walls with mud mortar, seven feet high by two feet thick, and plastered with same inside and out. A thin coating of lime or cement on the outside will make them last for years, if not forever, in this climate, as the adobe becomes harder and harder with age. Shingle roofs are preferable to all others, and in the end cheapest, as dirt roofs require constant replenishing, and are infested by a species of boring insects that let the dirt down continually. So board floors are essential to cleanliness and comfort, and should in all cases be provided. The expense, I know, is considerable; but when officers and soldiers are stationed here—a thousand miles from civilization—in a

vast, treeless region, excluded from all social comforts except the daily mail, I submit, the least their government can do is to give them decent and healthful shelter. It is no answer to this to say that the settlers get along with sod huts. They get along with many things that troops are not accustomed to, and live generally in a degree of dirt and squalor that would be disgraceful to the military service of any government in Christendom. There is no stone fit for building purposes here, and no lumber nearer than Denver; I therefore recommend adobe as the proper material, and would urge its use at all such posts on the plains generally.

The stables here are made of sod, rough adobes, and lumber, pretty well mixed up. The corral proper will accommodate 200 animals; the cavalry stable about 150 more. This last is a poor structure of sods and boards, within a few feet of one of the barracks, and is to be shortly taken down and added to the corrals. Should cavalry be sent here, it will be necessary to erect stables, which I recommend to be made of adobes, with dirt or sod roofs. These roofs are made by laying poles or slabs at a slight inclination, covering these with willow twigs that grow freely on the islands in the Platte, putting gummy sacks or old canvas over these, and then shovelling dirt, a foot or so in depth, over the whole. A board runs round the outer edge to support the dirt at first, but the first rain hardens it well. Such buildings will suffice very well for stables, and are the cheapest that can be erected here.

In this connection I would state that the lumber now being used here cost \$117 50 per thousand, the shingles \$15 per thousand, both delivered here. They were purchased by Colonel Webster at Denver, in open market, on the order of Major General Pope, for immediate use of buildings here. Last year the lumber used here cost \$205 per thousand. General Ingalls's letter says that lumber can be put down at Fort Sedgwick "for \$90 per thousand," and thinks Colonel Webster's contract too high. Colonel Webster explains the difference by saying that *since his purchase* freights from Denver east have largely declined, but that when he purchased his bargain was a fair one. I apprehend this is so, as freights are still going down in consequence of the greatly reduced business on the plains this year, freighters being willing to accept freights east at almost any figure, so that they can get something.

In my judgment, General Pope erred in not directing the purchases to be made by the quartermaster at Denver and by him shipped here. The officer there ought to know the market best, and the quartermaster here should be authorized to require on him instead of purchasing in Denver himself. I think this much due also to courtesy. From what I learn here, I am of the opinion that Denver is a very important point as a partial base for all the posts in this region, and I judge its importance has been overlooked. Timber, lumber, shingles, wood, and perhaps other supplies, can be furnished from there cheaper than elsewhere, in consideration of the low return freights, provided the quartermaster there watches the market closely. At least this is my impression now. I will examine into it more freely and report further after I get to Denver.

In this connection I also enclose a report from Colonel Webster, marked "A," giving comparative cost of a building here, 100 feet long by 25 feet wide, made of adobe, with floor and shingle roof; the same if made of sod, with floor and dirt roof; the same if made of lumber throughout. It is probably not exact, but is the best that could be done in answer to my call on him. The figures, it will be seen, are in favor of sod; but all things considered, duration and comfort especially, I think adobe best here.

No quarters exist for employ es except old tents, and there is no reading room or chapel here. The post, in fact, is organized and run merely for existence, and everything else is yet to come.

VII.—EMPLOY ES.

The roll of employ es foots up 147 men, at a total cost per month of \$7,450; also three enlisted men on extra duty at a cost of \$22 50 monthly. Total cost in this respect, \$7,472 50 monthly. Quarters and rations, of course, are allowed *ex necessitate*. The force is inadequate to present wants here, and should be at once largely increased. The one hundred men spoken of on page 16 will probably get here by September 20 or 30, but they should have been here three months ago. Colonel Webster has nearly his whole force hard at work in making adobes and pushing his buildings, but his force is small and progress slow. A hundred men more could be used to advantage—mechanics and laborers—and the necessary buildings will scarcely be completed in time if they are not sent. The comfort and health of the post admit of no delay now.

VIII.—SOLDIERS' CEMETERY.

There is no cemetery proper here, the dead having been buried in two different places, without much regard to system, neither of them enclosed. There are twenty-three graves in all. These have been duly reported to your office, in accordance with existing orders. I directed Colonel Webster to select a piece of ground, not exceeding one acre, at the best of the two places, to remove all the other graves to this, and to enclose the whole with a substantial adobe wall, as soon as practicable. To erect a paling fence here would be unadvisable as lumber is so rare a commodity, it would soon all be stolen or spirited away.

IX.—FIRE DEPARTMENT.

The only defence against fire here is two wells, each about twenty feet deep, without pumps. The danger here is great, the public buildings being so exposed, there being no fence or wall of any sort enclosing the post. I directed all inflammable oils to be removed from the store-houses, buckets and barrels of water to be stationed through them, and a requisition to be made immediately for sufficient pumps to equip both wells. I urgently recommend that they be furnished without delay.

X.—ACCOUNTS.

Colonel Webster's accounts had been rendered for July. I examined the retained copies, and found them in the main very correct. Few offices are so well organized or conducted as his. His books, especially, are very complete, denoting system and order in everything. His cash on hand August 29 footed up \$2,749 17, of which \$1,601 33 was deposited with the First National Bank of Denver City. This is a violation of existing orders; but he had reported the facts to you, requesting authority to continue his deposits there, because of its superior convenience to sending same to St. Louis, and I indorse his request, if consistent with the public interests. The balance of his funds (\$1,147 84) was in his safe for current use, was counted and found correct.

XI.—MISCELLANEOUS.

1. I beg leave to call your attention to the case of a man here named Frederick W. Arnest. He stands on Colonel Webster's "report of persons" for July as "No. 158, forage and wagon master, at \$40 per month," forage and rations. It seems he is regularly commissioned by the Quartermaster General as forage and wagon master under the act of Congress of July 5, 1835, and was formerly stationed at Fort Kearney. April 18 he was relieved from duty at Fort Kearney and ordered here by General Easton, chief quartermaster military division of the Mississippi. He arrived here May 10 and requested to be assigned to duty in charge of forage. As there was no vacancy of that sort and Colonel Webster had heard unfavorable accounts of him from officers at Fort Kearney, he declined to so assign him, but ordered him to duty as assistant wagon master. This Arnest refused to do, and so has been assigned to no duty and has done nothing since his arrival here. Some two months ago, without asking permission or giving notice to Colonel Webster, he took himself off to Pole Creek station, thirty-eight miles from here, on the route to Fort Laramie, and has continued there ever since. He has made requisition on Colonel Webster for forage for his horse there, but it has been refused because not on duty there. He has applied for pay, but it has been declined because refusing to obey orders and not performing any duty. I report the facts as a matter needing correction, and would recommend that his commission be cancelled with the loss of all pay due, and that Colonel Webster be notified accordingly. Captain Ladd, formerly assistant quartermaster at Kearney, and Brevet Major Chambers, 18th infantry, have both reported this man to Colonel Webster as dishonest and untrustworthy. Colonel Webster reported his case to you May 20, through General Easton, but no answer received.

2. Attention is also called to the line of military stages between here and Fort Laramie. It consists of various ambulances and animals, all furnished and supported by the quartermaster's department, though receipted for by the officers in charge of troops protecting the route. The ambulances are equipped with four mules each, and make semi-weekly trips between here and Laramie, a distance of one hundred and seventy-five miles, carrying the mails. Stations are arranged every ten or twelve miles where the teams are changed, so that the line averages from five to six miles an hour, the same as Halliday's coaches. In addition to the mails, these ambulances also carry passengers, but what is singular—by somebody's orders, I cannot ascertain whose—the post commanders at each end of the route control the passenger transportation, and make no report to anybody. No tariff of rates exists, and no charges are made, except clandestinely, which rumor asserts was not infrequent some months ago, though not believed to be the case now. I called on the post commander, Colonel Potter, sixth United States volunteers, and asked his adjutant for any orders he had in the premises. He said he hadn't any except past custom, and if Colonel Potter had, copies would be sent to me on his return, as he (Colonel P.) was absent at Julesburg when I called. No such copies, however, were furnished me. His adjutant said that no record of the transportation furnished was kept, except "occasional memoranda," and that ordinarily two citizens per trip were passed over the route free. Of course all persons in the military service ought to go free, but I think it an outrage that citizens, contractors, sutlers, railroad men, and others should go free over this costly line, and I recommend that all existing orders be revoked, and that transportation over this line be placed in the hands of the respective quartermasters at Sedgwick and Laramie, a tariff of charges to be established for all citizens not in the military service, regular transportation tickets to be issued, and reports to be rendered to your office in accordance with existing orders. This is where the subject properly belongs. Besides, if citizens are charged Halliday's rates (thirty cents per mile) a nice sum towards defraying expenses would be realized right along, and I don't see why there should not be. I beg to suggest immediate action, as the facts seem to demand it.

3. Colonel Webster's file of orders is the fullest and best that I have seen for many months. He realizes the importance of having them, and somehow manages to keep his file almost complete; other quartermasters should do likewise.

RECAPITULATION.

1. I commend Colonel Webster as a faithful and deserving officer, as shown by his official records and business here. (See pages 3, 4.)
2. I recommend that the public animals be reduced to ten teams, with sufficient mules besides to meet contingencies, and that all the balance be ordered to Omaha for sale or transfer as soon as possible. (See page 5.)
3. I recommend that at least one-half of the clothing be ordered to posts north or west, should they be unstocked. (See page 6.)
4. I recommend the reservation here be reduced to two miles square. (See page 14.)
5. I recommend adobe buildings, with board floors and shingle roofs, as the only proper structures here, and at similar posts on the plains. (See pages 18, 19.)
6. I recommend adobe with dirt roofs for stables here. (See page 19.)
7. I recommend all purchases of lumber, &c., made in Denver city for the use of this post be made by the quartermaster at Denver, and by him shipped here on contract. (See page 21.)
8. I recommend that one hundred additional men (mechanics and laborers) be sent here at once, with orders to push the necessary buildings forward as rapidly as possible in view of the lateness of the season, otherwise the troops will suffer. (See page 22.)
9. I recommend that sufficient pumps be sent here immediately to equip all the wells, as a necessary precaution against fire. (See page 24.)
10. I recommend that Frederick W. Arnest, a commissioned forage and wagon master here, be dismissed the service with loss of all pay due, for refusing to obey orders and practical desertion. (See pages 25, 26.)
11. I recommend that transportation by the military stage line between here and Fort Lar- amie be placed in the hands of the quartermasters respectively, where it properly belongs, and that regular rates be fixed and charged to all civilians. (See pages 26-28.)

Sub-reports and copies of orders issued while here will be found herewith.

I am, general, very respectfully, your obedient servant,

JAS. F. RUSLING,

Brevet Brigadier General and Inspector Q. M. D.

Brevet Major General M. C. MEIGS,

Quartermaster General United States Army.

A true copy:

H. A. KRYER,

Brevet Major and A. Q. M.

OFFICE INSPECTOR QUARTERMASTER'S DEPARTMENT, *Fort Morgan, C. T., September 4, 1866.*

GENERAL: I have the honor to announce my arrival here yesterday, and beg leave to submit the following report relating to affairs of quartermaster's department at Fort Morgan, Colorado Territory:

This post is situated on the south bank of the South Platte, 105 miles west of Fort Sedgwick and 85 miles east of Denver. At this point the mail road branches off southwest to Denver. Near here is an old Indian crossing of the Platte for tribes moving north or south, formerly much used, but now quite abandoned. The country around is barren and desolate, with no timber growing within fifty miles or more. The garrison consists of two companies 18th infantry, Brevet Major Kellogg commanding; in all, 118 men present. The post does not seem to be of the slightest use at present, as Major Kellogg says, and in this I concur. It supplies no other points, and there are no Indians adjacent to overawe, Denver and the mining regions exerting a salutary influence thus far east and further. It is a costly point to maintain for a variety of reasons, with no adequate return, so far as I can see; so, too, the situation is so desolate that it is the next thing to imprisonment to send officers and troops here. I don't wonder at their general discontent and dissatisfaction, of which the natural fruits are more desertions than at any point I have inspected. In view of all the facts, I recommend its abandonment early next season, the troops and supplies to be sent elsewhere.

I.—OFFICERS.

The quartermaster on duty here is Second Lieutenant W. M. Harshberger, 5th United States volunteers and acting assistant quartermaster. He is inexperienced and unfit for his duties, and I recommend his immediate relief, if orders have not already been given for the

muster out of his regiment. His chief clerk is actually quartermaster and a tolerably good one, Lieutenant Harshberger contenting himself with signing papers that he knows little or nothing about, nor will he ever learn, as he is of a heavy, sluggish nature, that cares only to drift along. He has not yet learned the first duty of an officer, *implicit obedience*, but quibbles and complains where he should act promptly. Like most volunteer officers I have met recently, especially those of the 5th and 6th United States volunteers, he has lost all interest in the service, and seems particularly worthless for all army purposes.

II.—PUBLIC ANIMALS.

These consist of fifty horses and eighty-five mules; of these fourteen six-mule teams, one four-horse team, and two four-horse ambulances are in daily use at the post. In addition, thirty-eight horses are held here in pursuance of General Orders No. 33, headquarters department of Missouri, current series, for use of mounted infantry. This order was issued some months ago, but no men have ever been detailed to mount them, and the horses have been much neglected, if not improperly used. Their condition now is very bad, though grazed and fed pretty regularly, and the quartermaster alleges that the commanding officer allows the enlisted men to ride them about on pleasure excursions to the neighboring ranches, and off on hunting parties, to their serious detriment. I transmit herewith a copy of a letter, marked A, on this and other subjects, recently addressed to General Easton by Lieutenant Harshberger, and think there is probably some truth in his statements. As the horses have not been used and probably will not be required for the purposes they were sent here for, I respectfully recommend, as the best solution of the difficulties here, that they be ordered elsewhere to mount cavalry, or sent to Denver for sale, where horses are now rating high.

As to the balance of animals here, I recommend that they be reduced to ten six-mule teams, with sufficient for contingencies, and that all the rest be ordered to Omaha for sale or transfer, according to the necessities of the department. Forage is too costly an article at Morgan to feed more animals here than are absolutely required. The thirty-eight horses above referred to, I should say, are not on the return of the quartermaster, but of a Lieutenant Wilcox, now at Salt Lake and not expected back. But they are at the post and should be disposed of in some way.

III.—CLOTHING, CAMP AND GARRISON EQUIPAGE.

The amount on hand foots up about four hundred suits, with excess of many articles. The quality is good, and it is all well stored. I recommend its retention here for the present.

IV.—RAIL AND RIVER TRANSPORTATION.

The Pacific railroad passes west some distance north of here, going up Lodge Pole creek, as stated in my report on Fort Sedgwick at length. It will not avail much for this post, even when completed. Now all supplies are delivered here by wagon transportation from the Missouri and Denver, and the system is working excellently well. I passed a train of thirty wagons, of subsistence principally, twenty miles east of here, *en route* to Fort Morgan, and its marching condition was admirable. I have seen no better nor more ship-shape trains in the army or elsewhere. All officers concur in awarding Mr. Caldwell, the contractor on this route, the highest praise, and I deem it but justice to record the fact here. His agents that I have met are men of business, and no complaints have reached me in respect to his affairs. No supplies are furnished to contractors, and none have been solicited. The true base of supplies for the post is the terminus of the railroad primarily, and Omaha secondarily. For lumber, shingles, and wood, however, Denver is the true base, I think. As to this, please see report on Denver hereafter.

V.—REGULAR SUPPLIES.

(a) *Fuel*.—A year's supply of wood is on hand—about 1,100 cords. This was delivered here from Denver at a cost of \$24 95 per cord—a very reasonable price when the cost of freight is considered. It was delivered here chiefly by return freight trains going east. No peat has been discovered in this vicinity, though the Platte bottom undoubtedly contains it. Of coal, however, there is a better prospect. Mr. Yates, chief clerk quartermaster's department, thinks coal can be found within ten or twelve miles, and is positive that it exists sixty miles southeast on the Bijou, a dry stream here. He says both bituminous and cannel coal have been found there, and that the country between contains sufficient water to supply trains *en route*. I directed Lieutenant Harshberger, verbally, to look well into this coal question; and also requested Major Kellogg to see that due attention was given it. Should this post be maintained, this coal supply is a very important matter here, and the quartermaster on duty ought to press it with vigor.

(b) *Forage*.—There are no oats; but of corn there is on hand 6,705 bushels—about a year's supply for animals on hand; it is in good condition, and well housed in a substantial frame forage house. Of this amount nearly 2,000 bushels were received in July from the

Missouri river,* notwithstanding the large excess I have reported lying idle and exposed to the weather at Fort Sedgwick. This last cost, delivered here, about \$3 50 per bushel. The balance cost last year \$18 20 per bushel. The amount on hand had better be retained for the present, for current use and issue. The hay on hand consists of about one hundred and thirty tons; this was received last year, at from five to twenty miles away, and cost delivered there \$29 50 per ton—a most egregious and costly folly, as much of it was north of the Platte, and still stands in stack there, the Platte not being fordable now, and has not been for several weeks; moreover, the bulk of it is believed to be spoiled now, and I think it safe to report the whole one hundred and thirty tons as unserviceable and worthless, as a further supply of five hundred tons has recently been contracted for, sufficient for twelve months, to be delivered at the post at a cost of \$12 per ton, which does not seem a living price for the contractor—so at least citizens and others say here; and their only explanation is, that the contractor has many other contracts, and hopes to make off of them sufficient to pay for his loss on this. He is a Mr. John H. Martin, of Denver; and Colonel Howard deserves much credit for getting the hay supplied at this low figure: it is certainly very reasonable. This hay will all be delivered at the post, and a forage-yard is being constructed to protect it. The hay itself is cut on the islands and Platte bottoms adjacent to the post embraced in the reservation, and the mowing machines belonging to the post are loaned to the contractor.

VI.—RESERVATION, PUBLIC AND PRIVATE BUILDINGS.

The reservation here is an area of land four miles square, embracing both sides of the Platte. I cannot learn anything of its origin, there being no records on file here. The post itself was established in 1864. A map has just been completed for General Easton, and I have directed a copy to be sent to you. The public buildings consist of several good frame storehouses, sufficient for a year's supply of all stores needed at the post, and a variety of sod buildings, all practically worthless. A report is herewith showing buildings more particularly. The barracks are intended for three companies; only two are occupied, the third being now used as a cow stable and guard-house. There are no floors in any of these. The roofs are dirt and sods, and all leak badly. The hospital is about the same as the barracks: it has a capacity of a dozen patients, but there are no sick at the post. There are no quarters for officers of any kind. The commanding officer lives in a hospital tent, and the other officers quarter in the storehouse and hospital. Two sod buildings are now going up—one for post commandant, and the other for officers' quarters; but both are badly planned, and will probably tumble down before completion; the walls are too high, and are already cracking and bulging out, though the roofs are not yet on. No attempt has been made at adobes proper. Some lumber sent here from Denver, for floors, &c., for these buildings, cost, delivered here, \$45 per thousand feet for boards, and \$1 50 per thousand for shingles. I am persuaded that this will put up buildings at Fort Morgan cheaper than either sod or adobe, besides being infinitely more comfortable and suitable for troops in all respects. I am the more convinced of this from observing the practice of settlers here—a safe rule ordinarily to go by. All or very nearly all their buildings going up about here are frame; and they tell me the same is the case from here to Denver. The overland stage company especially knows what it is about, and its sod-buildings all ceased some stations back. It finds it cheaper and better to import lumber from Denver, and I think the quartermaster's department would find it the same, so far as Fort Morgan is concerned. The post seems to have been established without much regard to system, and, as a whole, reflects little credit on the service. The storehouses, shops, corral, stable, and sutler store, all face on the parade ground as the post now stands; and, as I have before said, one of the barracks is used as a post cow-stable. It is but just to say that the plan of the post, when completed, excludes part of these. Still its present appearance is anything but inviting, and I know of nothing better than to repeat my former recommendation, namely, to break it up and abandon it early next season. Indeed, this might be done this year, I think, without loss to the service. Should the post, however, be maintained, I recommend the use of lumber in preference to all other building materials here. There is no stone. Drawings of the buildings at the post are just about being completed in accordance with existing orders, and they will be forwarded to you without delay. There are no quarters for employes except tents, and no chapel or reading-room. All of these will have to be provided should the post be maintained.

VII.—EMPLOYÉS.

The roll of employes foots up 28 men, at a total cost per month of \$2,075, exclusive of quarters and rations. In addition to these the bulk of the troops at the post are constantly employed in putting up sod buildings and doing other necessary work, so that the actual working force at the post is considerable. None of these, however, have been hitherto reported. I directed this to be done hereafter. The force of clerks I think unduly large.

* Mistake; these 2,000 bushels came from Denver, as afterwards ascertained.

I recommend them to be reduced to one. This, with such detailed men as the garrison would readily afford, I judge sufficient, and in this Major Kellogg concurs. The rest of the employés will be necessary until the post is housed; but by December 1 the force ought to be reduced still further.

VIII.—CEMETERY.

There is no cemetery proper here. A sort of a post burying-ground exists half a mile or so east, in which there are eight graves, supposed to be civilians, and three soldiers are buried a quarter of a mile away in another place by the roadside. No headboards worth mentioning are at any of these. I directed Lieutenant Harshberger to remove the soldier graves to the place occupied by the eight others, as they are on an isolated bluff, and to enclose not exceeding half an acre there with a substantial sod wall. A report of these graves, I was told, had been duly rendered to your office, in pursuance of existing orders.

IX.—FIRE DEPARTMENT.

No provision whatever against fires exists at this post. Water is supplied from the Platte by a water wagon, at a cost of \$3,882 50 annually. This seems startling, but my calculation is as follows: six mules consume one bushel of grain per day, 365 bushels, at \$8 20 per bushel, (cost delivered here,) foot up \$2,993; their rations of hay, at \$12 per ton, foot up \$180 more; wages of teamster, at \$50 per month, foots up \$600; cost of his rations, at 30 cents per ration, \$109 50—total, \$3,882 50, which does not include interest on cost of team or its ordinary wear and tear. Of course I found inflammable oils in the main warehouses; so, too, the post wood-pile was just up against the principal storehouse. I directed the removal of these, and the placing of barrels and buckets of water in all the storehouses, and a well to be dug without delay; also a requisition to be made for a pump, which I recommend to be sent to Fort Morgan from Denver. Colonel Howard can probably supply one fifty per cent. cheaper than it can be bought and transported from the east, and in less than one-half the time.

X.—ACCOUNTS.

The accounts of Lieutenant Harshberger had been rendered for July, and his retained papers, in the main, were correct. He has no cash-book or any other books, except a letter-book, which is well kept. I instructed him verbally to open all the necessary ones, and keep them for permanent use of the post. His cash on hand footed up \$41 13; it was counted and found correct. His estimates for July and August had not been filled, but he was expecting funds daily. The delay had caused him to retain teamsters at \$50 per month, when he could hire others at \$35, existing orders here prohibiting the discharge of men on vouchers. I am not satisfied that he has done his duty in trying to secure funds, but from the instructions I gave him, and the talk I had with the post commander on this point, I presume the matter will soon be remedied.

XI.—MISCELLANEOUS.

1. I regret to say that the general arrangement of this post seems bad. The quartermaster neither knows his duties nor wants to, and should never have been assigned to such duty. The larger part of his duties are actually performed by Colonel Howard, at Denver, who makes all his contracts, and the balance are done by his chief clerk.

2. I think the post commander, Major Kellogg, interferes too much with the quartermaster's department, and is not sufficiently courteous to the quartermaster. He is in the bad habit of sending orders direct to Lieutenant Harshberger's employés instead of to or through him, and these usually only verbal ones by soldiers indiscriminately. Because some of these have not been promptly obeyed, the employés insisting that their orders should come from the quartermaster, Major Kellogg has peremptorily ordered their discharge. This is wrong, for obvious reasons, and I recommend that Major Kellogg be instructed accordingly.

RECAPITULATION.

1. I recommend that Lieutenant Harshberger be relieved from duty as post quartermaster. (See p. 2.)

2. I recommend that the public animals at the post be reduced to 10 six-mule teams, with sufficient contingencies, and that the surplus be sent to Omaha for sale or transfer, according to the necessities of the department. (See pp. 3, 4.)

3. I recommend lumber as the proper and cheapest material for building purposes at Fort Morgan. (See pp. 8, 9.)

4. I recommend that Lieutenant Harshberger's clerks be reduced to one, and that the force of employés be still further reduced by December 1. (See p. 10.)

5. I recommend that a pump be sent to Fort Morgan, from Denver, for use of a well to be dug there immediately. (See p. 11.)

6. I recommend the post to be broken up and abandoned as no longer necessary. (See pp. 2 and 9.)

7. I recommend that the post commander, Major Kellogg, be instructed in his duties as to the quartermaster's department. (See p. 13.)

Copies of orders issued while here are herewith enclosed.

I am, general, very respectfully, your obedient servant,

JAMES F. RUSLING,

Brevet Brigadier General, Inspector Q. M. D.

Brevet Major General M. C. MEIGS,

Quartermaster General U. S. Army, Washington, D. C.

A true copy :

H. A. KRYER,

Brevet Major, Assistant Quartermaster.

OFFICE INSPECTOR QUARTERMASTER'S DEPARTMENT,
Denver City, Colorado, September 9, 1866.

GENERAL: I have the honor to announce my arrival here a few days ago, and beg leave to submit the following report relating to affairs of the quartermaster's department at Denver, Colorado Territory.

This post is situated eighty-five miles southwest of Fort Morgan by the stage road, and almost one hundred miles by the river road. There is no garrison here, the last troops having been ordered elsewhere in June last. Recently a company of the 18th infantry was ordered here by Major General Pope, but the order was suspended by Major General Sherman, and I see no necessity for any here hereafter. The town itself (6,000 inhabitants) and the country about, being so thickly settled, are impregnable against the Indians, and troops are more wanted elsewhere.

I.—OFFICERS.

The quartermaster on duty here is Brevet Colonel J. B. Howard, assistant quartermaster volunteers, who is also assistant commissary of subsistence. He came here in February last, and the records of his office show that he has done good service here. In March he visited Big Laramie and located Fort John Buford near there. This post he has planned with excellent judgment, and the chief buildings there he has already well under way. The main portion will be completed ere cold weather, and if his plans are carried out, the post will be all that can be wished there. During the same time he has made large reductions here and visited many of the adjacent posts within three hundred miles, and has cut down the cost of supplies at most of them very creditably. His work here at Denver, and at points controlled from here, stamp him as a practical and valuable officer, and I beg leave to commend him to your consideration accordingly.

II.—PUBLIC ANIMALS.

These consist of fifty-seven horses and three hundred and twenty-four mules. Of these, twenty-one horses and sixty mules are for use of General Sherman's party, now *en route* here from Fort Laramie, expected to-morrow. Of the balance, one four-horse team and two four-horse ambulances are held for local post use; twenty-five six-mule and nineteen four-mule teams as supply trains for outside use; the rest for contingent purposes. The supply trains are now off carrying stores to Fort John Buford, one hundred and thirty miles, and Fort Casper, three hundred and fifty miles. They have also been run to Fort Morgan, eighty-five miles; Fort Sedgwick, two hundred miles; Camp Collins, and other points. Colonel Howard is of the opinion that this work could be done much cheaper by contract, and in this I heartily concur. But as the teams were here he deemed it best to use them, as indicated, rather than let them remain idle. He agrees with me that the contract system is the true one, and I accordingly recommend that all public transportation here be reduced to one four-horse or mule team, two ambulances, and a small number of animals for contingent purposes, such as supplying a passing ambulance or wagon, and that all the rest be either sold here as surplus, or ordered elsewhere for sale or transfer, according to the necessities of the department, unless Denver be maintained as a permanent depot, as recommended hereafter. If ordered sold here, good prices will be obtained, judging by past sales here and present state of the market. Both forage and labor are very costly here, and our teams should therefore be reduced to the minimum.

III.—CLOTHING, CAMP AND GARRISON EQUIPAGE.

Of this there are about 1,500 suits of clothing here, with excess of many articles. Its condition is good; no complaints, though not up to the old regulation standard. It is securely stored, and well taken care of, and I recommend it to be retained here should Denver be kept as a depot.

IV.—QUARTERMASTER'S STORES, ETC.

The supply of these is considerable, especially in the matter of parts of wagons, horseshoes, mule-shoes, nails, &c. But the assortment is bad, many articles being wanted entirely. Should Denver be maintained as a depot, much should be sent here, and until the question is determined I recommend that present stock be held for current use and issue.

V.—RAIL AND RIVER TRANSPORTATION.

No supplies have been received here since Colonel Howard took hold. Some coal he has hauled twenty-two miles himself, and he has sent stores by his own teams to various distant points, as stated on pages 3 and 4, supplying all calls upon him. The true method is undoubtedly contract transportation by the pound, and it should be adopted everywhere on the plains as soon as practicable. The Pacific railroad is well on the way here by two routes, and everything seems awaiting its arrival. The northern route, up the Platte, Lodge Pole creek, &c., will probably pass fifty or one hundred miles north of Denver; but the southern, up the Kansas, Smoky Hill, &c., will undoubtedly strike Denver, and then pass west to meet the northern line, as provided by Congress, at some point fifty miles west of Denver. The northern road seems to be progressing most rapidly, yet it is not expected to reach its anticipated point, north of here, Fort John Buford, before late in 1869. The terminus of this road and Omaha will be the true bases of Denver and all the posts north of here, as reiterated in previous reports, until the southern line reaches Denver, which it is expected to do by January 1, 1868. Then Leavenworth will become the true base here, as the southern road is the shortest. Distance to Omaha from here, via Fort John Buford, about 780 miles. Distance to Leavenworth, via the Smoky Hill and Kansas, 625 miles. I am more than ever convinced of the practicability and propriety of establishing shifting depots at the termini of each of these roads early next season, as recommended in my report on Fort Leavenworth at length. All officers I have met concur in this opinion, and I find Colonel Howard has already recommended it, substantially, in letters to General Easton, so long ago as February 14 and 20. The reasons are so obvious, and have been repeated so often, that I forbear to state them again. The saving, I am confident, would be immense in a score of particulars, and I shall feel that my trip west has already amply paid for itself if only this one reform is instituted. Shifting depots at the termini of the railroads, to draw daily or weekly from Leavenworth and Omaha, and with contract trains to run from these to all posts—this I am convinced, is the true system for the plains for the next two or three years, and I cannot urge it too strongly upon the department.

VI.—REGULAR SUPPLIES.

(a) *Fuel*.—The amount of wood on hand is small, only thirty-eight cords. This was procured on a contract of the former quartermaster here, Captain Turnley, assistant quartermaster, and cost, delivered here, \$14 per cord. Wood is now selling here at \$9 per cord in open market, and large supplies could now be had here at about that rate. Attempts have been made to discover peat, but the article found proves a failure. Good bituminous coal, however, has been found in the mountains, twenty-two miles off, and costs there \$5 per ton. A deposit is reported only three miles off, but it is not worked yet. No anthracite has appeared yet. This coal is not first quality, having too much sulphur in it, and disintegrating rapidly when exposed to the air. Yet it burns well, and will prove valuable for supplying various posts when the railroad reaches here. But little fuel of any kind is consumed here now.

Fort Morgan is supplied with wood from here, at a cost of \$24 95 per cord, delivered there. Last year the price paid there was \$64 and \$65 per cord. Fort Sedgwick is also supplied at a cost of \$46 per cord, delivered there; last year, \$105. This contract (\$46) was made by Colonel Webster, assistant quartermaster of volunteers at Fort Sedgwick, and I do not think it could have been made cheaper here, as per my report on Fort Sedgwick, which is confirmed by my inquiries here. Nevertheless, I think it should have been made by Colonel Howard, as a matter of right and courtesy, as he is depot quartermaster here, and also as a means of keeping only one officer in the market here instead of two, in effect bidding against each other. The contract at Fort John Buford was also made by Colonel Howard for wood delivered there at \$8 97 per cord; this, however, was cut in the vicinity of the post.

(b) *Forage*.—The amount on hand foots up 498 bushels of corn and 70 tons of hay. The corn this year came from the Missouri, and cost, delivered here, \$3 24 per bushel. Colorado and Mexican corn can be bought here now for about the same figure, less original cost at the Missouri; the kernels are smaller, but the quality is good, quite as heavy to the bushel, as I found by actual weight, and the probability is that next year it will be even lower. The hay on hand cost \$35 per ton fifty-four miles off, being one of Captain Turnley's contracts; it can be put here now for \$15 per ton. The present contract at Fort Morgan is for \$12 per ton; at Fort John Buford, \$10 47 per ton; at Fort Casper, \$47 per ton. At this last post it has to be cut and hauled from twenty-five to fifty miles, which explains the difference in price. All of these contracts were let by Colonel Howard, and he deserves much credit for the way in which he has "smashed things" out here, as to both fuel and forage. In pre-

vious reports I have intimated "the extravagance, not to say worse things," heretofore prevailing on the plains. I am convinced of the most reckless or ignorant management on the part of many officers, and the contracts, in the main, "smell to heaven." There is no other satisfactory explanation of the great difference between last year and this year, and were the officers still in the service they should be called to a strict account.

VII.—PUBLIC AND PRIVATE BUILDINGS, RESERVATION, ETC.

There is no reservation here, and it is now too late to establish one near here. the grass and valuable lands being all pre-empted. The public buildings are all frame structures. They consist of barracks, stables, forage-house, corrals, &c., as per report herewith—all in good condition. They cover about four acres of land, claimed by Mr. A. C. Hunt, delegate elect from this Territory. The land was unenclosed when we originally occupied it, and Colonel Howard has therefore declined paying rent, under General Orders No. 8, Quartermaster General's office, 1864. Mr. Hunt claims \$150 per month. A board of officers reported it as worth \$45 per month. As I have said, none is now paid; but as the rebellion has been officially declared ended, I presume the operation of General Order No. 8 has about ceased, and I therefore recommend that the land be either vacated and restored to Mr. Hunt, or a fair rate of rent be paid him for the same. This seems but justice now.

The rent-roll, it will be seen, is costly for so small a post; but it will be remembered that buildings are scarce here, and all very dear. Everything is at mining region price, with greenbacks at a discount, and houses follow suit. The roll has been largely reduced by current reductions here, and will still further be cut down by the transfer and sale of ordnance and medical stores to take place shortly. Large as it is, the difference between now and last spring is most striking, when (March 1) Colonel Howard found it to be \$1,702 per month. The warehouses were but half filled and business scattered. Now he has concentrated much, transferred stores elsewhere largely, and discharged buildings right and left.

His shops are all on a small scale except the blacksmith shop, which is necessitated by the large number of animals here. His employés are all well quartered in good frame buildings.

In this connection I would say that lumber costs here \$45 per thousand feet, and shingles about \$10. No cheaper building materials can be used here, and nothing better for floors and roofs for all posts adjacent.

Plans and drawings of the public buildings here have been duly furnished you by Colonel Howard.

VIII.—EMPLOYÉS.

The roll foots up ninety-eight employés, at a monthly cost of \$6,071; quarters and rations, are also allowed, in the main *ex necessitate*. Of these, ten men, in charge of pack train, go with General Sherman, and five others are now taking care of animals that accompany him. These five will be discharged when he starts south, and the others will be dropped when he returns east. Of the balance, a heavy reduction can be made, if my recommendation on page 4 as to animals is carried out. So, too, wages ought to be cut down as winter approaches, as Denver will then be full of idle miners wintering here. As the depot now stands, the force is not in excess, and is less than one-half what Colonel Howard found it in February, though he is evidently doing about the same work. The employé force then cost \$14,219 67 per month; now it costs \$6,071.

IX.—FIRE DEPARTMENT.

The public property here is well protected in this regard. Buckets and barrels of water are stationed through the buildings. Wells are adjacent. A mountain ditch, brought down for irrigation and milling purposes, runs near them, and a hook and ladder apparatus has been provided. I think these precautions the more noticeable and commendable because of their absence elsewhere on my route here. Some inflammable oils I ordered removed, but this was all.

X.—CEMETERY.

This is located about two miles east from Denver, on a gentle slope. A part of the city cemetery was set apart by the proprietor thereof, Mr. J. G. Walley, for soldiers' graves, and he agreed to deed the ground occupied, about one-half an acre, to the United States, if the quartermaster's department would enclose it. Colonel Howard has accordingly enclosed it with a neat paling fence, and has headboards about ready to put up, in accordance with existing orders. In this there are thirty-five graves, of which four are citizens. A report and plan of this have been duly rendered to you by Colonel Howard, in pursuance of your orders.

XI.—ACCOUNTS.

The accounts of Colonel Howard for July had been rendered, and those for August were well under way. His cash on hand consisted of \$1,584 58, of which \$54 64 was in his safe. Balance on deposit in New York, St. Louis, and Denver. Amount in safe counted and found correct.

XII.—DENVER AS A DEPOT.

In my instructions you direct me on my arrival here to confer with Brevet Colonel Howard as to the practicability of breaking up (Denver) and removing all stores to other points. I have made this a matter of careful inquiry while here, and of thought before coming here, as will be seen by my reports on Forts Sedgwick and Morgan. My preconceived opinions were against the advisability of maintaining Denver; I had cause to change these somewhat, from what I saw and heard at Forts Sedgwick and Morgan, and I am now persuaded that my first opinions were wrong. It is hard to form an unbiased judgment here, the outside pressure is so strong in favor of a post or depot; and had I deferred considering it until I arrived here, I would be inclined to suspect my decision. As it is, I feel no hesitation in advising against a garrisoned post, as wholly unnecessary, while at the same time I recommend the continuance of Denver as a depot of the quartermaster's department. My reasons, are briefly, the results Colonel Howard has accomplished here, and the facts and figures given in this and previous reports as to fuel, forage, and lumber, in connection with Denver. From its geographical location and the start it has got already, Denver is the great commercial and business centre of this region, and will doubtless maintain its supremacy for years to come. The Pacific road will put it in immediate connection with all posts, east and west, on both lines, and increase its value, militarily considered, every way. From here Forts Sedgwick and Morgan can be supplied with fuel far cheaper than any other point, as per my reports, and Forts Sedgwick, Morgan, John Buford, Laramie, Casper, Garland, Lyon, and Pond Creek, with grain cheaper than from the Missouri. The difference in grain this year is hardly mentionable; but the grain-producing capacity of Colorado is steadily and rapidly increasing, and next year it is believed she will be able to spare a large surplus. This year, indeed, the decrease in prices here shows that she is self-sustaining, and the best informed men here assure me that when all her crops are gathered she will have something over. I gather this, not from speculators or contractors, or Colonel Howard, merely; but from Governor Cummings, Governor Gilpin, Bishop Randall, and other persons of standing here, who have travelled extensively through the Territory, and whose opinions I think it safe to depend on. It is true there are few rains; but irrigation is being extensively resorted to, as at Salt Lake, and this insures certain crops, barring the grasshoppers, the soil being immensely fertile as a rule. The grasshoppers are the great pest now, but irrigation is death also to them, as millions of them become drowned in the ditches.

In connection with this matter of grain, I would particularly call your attention to the "black oats" grown here. They are produced largely already, and are equal to the best oats of the Atlantic States. Almost the only grain shipped here and to adjacent posts by the quartermaster's department has been corn, which costs here, as I have said, \$3 24 per bushel of fifty-six pounds. These oats can be put down at Denver at \$1 75 per bushel of thirty-five pounds, which is equivalent to corn at \$2 80 per bushel of fifty-six pounds. Oats are a better and safer feed than corn in the long run, as every quartermaster knows, and I recommend that these oats be largely substituted in this region hereafter. I apprehend they can be bought here next season at not exceeding \$1 per bushel, unless something unusual occurs. So, also, I predict large quantities of corn, good and serviceable, can be put at several posts here if desired, at figures less than it can be imported from the Missouri. These considerations are important, and I know you will give them due weight.

In previous reports I have dwelt upon the inexpediency of sod buildings and dirt or adobe roofs. I am confirmed in my opinions by all I see and hear here. Our troops have so little of comfort and civilization at their isolated posts, that the least we can do for them is to give them decent shelter. Sod buildings are an abomination, and dirt or adobe roofs no better, because of flees and other vermin, and the danger from leakage and falling down. Adobe buildings are good in necessary cases, but in all cases board floors and shingle roofs should be furnished. The materials for these are in the large pineries near here, among the mountains, and Denver is the market for all these. Lumber is now selling here for \$45 per thousand feet, and shingles for \$10 per thousand, and the price will probably fall right along. It can be put down at Fort Sedgwick now at \$85 per thousand; shingles at \$15. At Fort McPherson for \$90 per thousand; shingles, \$16. At Fort Riley, even, at \$90 per thousand; shingles, \$16. Lumber and shingles are now being shipped to all those points, on private account, at these figures. This is an important item in deciding on Denver, as prices are less than original cost on the Missouri.

I have already alluded to the commercial importance of the place here. Denver capitalizes Colorado, and our contracts at all points are nearly all taken by Denver men. The bearing of this is apparent. In view of all the facts, I respectfully recommend that Denver be continued as a depot of the quartermaster's department. A proper assortment of clothing and quartermaster's stores should be kept here for contingent issues. The stock on hand is large enough in some items, but should be increased in others. Repair shops should be established here on a considerable scale, to which all unserviceable property should be sent from the neighboring posts for repairs and reissue. So all condemned property should be turned in here for sale—say, once in six months, as all species of property will sell here at advanced prices. The transportation kept on hand should be only sufficient for current wants of the depot; all outside transportation to be procured on contract, by the pound. Perhaps

it might be well to keep on hand a train of twenty-five six-mule teams, to send out for short distances occasionally, or for extraordinary wants. The depot should furnish lumber, shingles, fuel, &c., to the posts indicated, make all contracts for supplies found adjacent to them, such as hay, &c., watch the grain product here and at adjacent posts, so as to use the supply as soon as possible, rather than import from the Missouri, and should be an authorized disbursing centre, the same as Leavenworth or St. Louis. This last is important, as bids put in here now discriminate in favor of currency as against vouchers, and in favor of vouchers payable in Denver against vouchers payable in Omaha, Leavenworth, or St. Louis. The reason is obvious, and I know of no pretence even why accounts due here should not be paid in Denver, rather than six hundred or one thousand miles east. A branch of the Treasury Department is established here, and is, of course, a recognized depository.

The officer stationed here should be a live man, of approved capacity and integrity, or else these Coloradoans will be too sharp for him. A slow man, or one of narrow capacity, would be of no use in the world here, and the depot had better be broken up than to send such a one. He should be required to personally inspect all the posts he supplies, at least once or twice a year, and thus inform himself thoroughly of their wants. Colonel Howard, in my opinion, would suffice well for the position, from what I see of his operations here, and I recommend him for the place, should he desire to stay. His health, however, is far from good, this climate not agreeing with his constitutional ailment, (inflammatory rheumatism,) and his services have been so valuable, here and elsewhere, that I think he should be consulted as to this. He expresses himself now as desiring a more eastern station, and I respectfully recommend that his request be granted, should he apply for a change.

An objection to a depot here is the want of public land or buildings. To obviate this, citizens here offer to present to the United States ten acres of land near to the town, in fee simple. This might be accepted, or else an eligible site be selected on the Platte above or below the town, according as the railroad strikes it, and buildings erected there. The cost would not be very great, and the saving in rents would soon defray a large portion of it.

I am satisfied that the above recommendations are correct. Colonel Howard is substantially of the same opinion now, though heretofore he has recommended the abandonment of Denver. Fuller information and study of the "situation" here have led him to modify his views, and he authorizes me to say so. To make sure I am right, however, I shall defer my progress west for some days, and go with him down into the southern and western portions of the Territory, to see for myself the agricultural and lumbering resources of the Territory. I deem this important to a thorough understanding of matters here, and now that I am here I think it better to go fully into the subject. I make this report now, and will report further on my return.

A commissary may be necessary here, but I see no necessity for any other officers or any troops here, as stated on page 1. Flour and vegetables are now raised in Colorado in large amounts, and I think the subsistence department would find it to its interest to look well into the facilities of Denver in this regard.

In conclusion, I would call your attention to the high prices of living here, exceeding those even of San Francisco, and as a matter of justice to officers here would recommend double commutation, the same as at Washington. The commutation ruling here now is ridiculously low, in view of the price of rooms current all the year round, and especially in the winter. I think this quite important, and have been urged by all officers here to bring the matter to your attention. The rent of serviceable rooms here, in central or good localities, averages from \$15 to \$25 per month.

RECAPITULATION.

1. I commend Colonel Howard as a faithful and valuable officer, who has rendered good service here. (See page 2.)
2. I recommend that the public animals and transportation here be largely reduced. (See page 3.)
3. I again recommend shifting depots at the termini of the two Pacific railroads for the next two or three years. (See pages 5 and 6.)
4. I recommend the employé force to be largely reduced, should the animals be reduced. (See page 13.)
5. I recommend that Denver be retained as a depot, and fully organized at once. (See pages 15 to 25.)
6. I recommend that commutation here be doubled, to meet the high cost of living, the same as at Washington. (See page 25.)

A copy of the only order issued while here will be found herewith.

I am, general, very respectfully, your obedient servant,

JAMES F. RUSLING,

Brevet Brigadier General and Inspector Q. M. D.

Brevet Major General M. C. MEIGS,

Quartermaster General U. S. Army.

A true copy:

JOHN V. FUREY,
Brevet Major and A. Q. M.

OFFICE INSPECTOR QUARTERMASTER'S DEPARTMENT,
Denver City, Colorado, September 12, 1866.

GENERAL: There are some general observations that have occurred to me, partly *en route* and partly here, that I deem it best to present to you in a special report, as follows:

I. The whole plains from the Missouri here abound in private teams and trains, composed largely of government animals, both horses and mules. These have either been picked up, when astray, or stolen or bought of those who have stolen them, either white men or Indians. I myself have observed them in many trains, and the number at both ranches and in road trains foot up thousands, in my opinion.

Many of the horses of Halliday's overland stage company are public animals, wrongfully obtained in this way, and the drivers make no hesitation in boasting of this or that animal as being a "government nag." The facts are admitted by all or nearly all of the officers I have met, yet there seems to be no general knowledge or sense of duty, that all such animals should be seized and held as public property of the quartermaster's department. I recommend that specific instructions be issued to all officers serving on the plains to inspect all ranches and passing trains and coaches, and forthwith seize all animals bearing the United States brand, unless lawful title can be shown. Such action will produce a "sensation," but it is just and right, and ought not to be delayed.

It is time the general looseness of ideas as to government property on the plains ceased. Nobody here thinks it harm to swindle the United States, and it is a matter of general notoriety that the cavalry heretofore serving on the plains, as a rule, swapped horses with the settlers, "for a consideration," as they were about being mustered out. This is a simple explanation of the refuse stock they generally turned in, and in my judgment the only true one.

II. I regret also to call attention to the habit prevailing at Omaha, Nebraska City, and Leavenworth of sending out government and contractors' trains without sufficient arms. The post commanders at both Fort Kearney and Fort McPherson complained of this. It seems there is a General Order, General Sherman's headquarters, (and a very proper one, too,) that no trains must be allowed to pass west unless there are at least thirty armed men with each, as a necessary precaution against Indians.

Trains on leaving the three posts designated are assured, as reported to me, that arms will be furnished at Fort Kearney, whereas there is no ordnance officer there, and no ordnance supplies whatever, except for current use of the post.

The same is true of Fort McPherson. The result is numerous detentions, to the great annoyance both of trains and post commanders. August 26, when I was at Fort McPherson, a train of ninety cavalry horses arrived there *en route* to Fort Laramie, with thirteen men in charge, of whom only two were armed. They were stopped by Brevet Lieutenant Colonel Misner, commanding at Fort McPherson, and afterwards furnished with an escort from his own garrison, rather than have them delayed. The facts I respectfully report for your information, and such action as may be deemed necessary. I think the general order referred to a very wise and judicious one, and at all events it should be complied with, at the points indicated, until revoked.

III. In my various reports on posts on the plains, I have expressed my views very decidedly as to the kind of buildings necessary. Permit me to recapitulate them, in brief, as follows: At permanent posts the buildings should be of stone, frame, or adobe, according to cheapness of material, but in all cases with board floors, and shingle or slate roofs. Sod I think worthless, except as a dernier or very temporary resort, and sod or dirt roofs are vile—so bad and disagreeable, that no troops should be required to shelter under them. Dirt, dampness, disease, vermin, all infest such structures, and the United States government, I take it, means better than that by the faithful troops that serve it. In connection with this, I beg leave to call your attention to the want of uniformity in building posts heretofore. The result offends the eye and taste, and at the same time leads to innumerable quarrels among officers in the selection of quarters and barracks. At Fort McPherson I was shown a volume called "*Regulations for Quarters and Barracks*," published by the War Department in 1860 or 1861, but overlooked since, I suppose, by the pressure of events. It contains full plans and specifications, with drawings, &c., in full, for all necessary buildings at a post, with quarters and barracks about like, though exactly in conformity with, United States army regulations 1863. The plan admits of indefinite expansion, from one company to ten or more, and places the staff departments, with storehouses, &c., well away by themselves, as they should be. The specifications are for stone, brick, lumber, or adobe or sod, if I remember correctly, and from a hasty examination of it I thought the work a valuable one. Several hundred copies, I was told, are now stored away in the attics of the War Department, and your attention is respectfully called to it as a means of securing more uniformity and more satisfactory buildings in the future than have been obtained in the past. I am aware of your general order on this subject in 1864, I believe, but it does not seem to have reached the plains.

IV. With the opening of next season I see no further necessity for either Forts Kearney or Morgan, and I recommend their abandonment then accordingly. The little post at Plum creek, thirty-five miles west of Fort Kearney, now occupied by twenty-five men or so, should be abolished at once. It was ordered there a year or two ago, and was necessary then; but its necessity has long ceased, without anybody seeming to remember that troops

had been ordered there. It is trying hard to grow into a permanency, by putting up sod buildings, calling for lumber, erecting a flagstaff, getting a branch sutler store, &c.; but it is simply useless, and ought to be wiped out. In this opinion General Wessels, commanding at Fort Kearney, and Colonel Misner, commanding at Fort McPherson, both concur. Kearney has become valueless by the increase of settlements and the advance of the railroad west of it, and Morgan is of no use now and never will be. I doubt if it ever has been, except to absorb the funds of the quartermaster's department. Fort McPherson, I think, should be removed early next season to the opposite or north side of the Platte, to the point where the Pacific railroad crosses the North Platte, as indicated in my report on that post at length, which please see. It may be necessary there for a few years, as the first frontier post on this route west; but the railroad will soon reduce its importance by multiplying settlements, and thus destroying the necessity for posts at all.

The post at Fort Sedgwick I think important until the railroad reaches say Fort John Buford, or some point there north of Denver, when it will become *en rapport* with the heart of Colorado. Then Sedgwick may also be abandoned, as the settlements along the railroad and up the Platte valley will prove the best garrisons for the country. I think similar views are applicable to several posts on the Smoky Hill route, though I am not able to speak advisedly as to these. A strong influence will be exerted, of course, to retain posts everywhere as long as possible, not so much because of their protection as because of the patronage they dispense to the country about. The strength of this influence it is hard to understand unless a person visits the posts himself. I mention it as an element to be calculated for at Washington in considering the frontiers, and I judge you will find it important. As to the post or depot here at Denver, please see my report on Denver, where I speak of it at length.

V. The unnecessary extent of most government reservations on the plains is another item that I think should be corrected. I have spoken of them at length at the posts inspected, and I recommend their reduction everywhere. A mile or two square, at the furthest, I deem sufficient, with grass-lands enough for grazing purposes. To retain land for hay or wood purposes, and cut the supplies ourselves, in my judgment, is inexpedient as a rule. Where the troops are sufficient in number this might be done; but I apprehend, at most posts, they will only suffice for mere garrison and scout duty for some years to come, and that it is simply a question of running the post by employés or on contract. In that case, I deem the contract system by far the cheaper, and recommend its general adoption accordingly.

The increase of settlements west will necessitate the reduction of reservations anyhow, and I think it bad policy to exclude them from the neighborhood of posts by reserving all the best lands adjacent. The objection that the proximity of settlements tends to demoralize the troops is fallacious, in my opinion, as they are sure to visit them anyhow whenever they want to, no matter how far away. This is my observation here.

In conclusion, I am, general, very respectfully, your obedient servant,

JAS. F. RUSLING,

Brevet Brigadier General and Inspector Q. M. D.

Brevet Major General M. C. MEIGS,

Quartermaster General United States Army.

A true copy :

JOHN V. FUREY,

Brevet Major and Assistant Quartermaster.

OFFICE INSPECTOR QUARTERMASTER'S DEPARTMENT,

Denver, Colorado, October 2, 1866.

GENERAL: I returned here again on the 29th ultimo (Saturday) from my trip to southwestern Colorado, having left here on the 13th. As intimated in my report on Denver, dated September 10th, I deemed it best to make this trip, and was further advised by Lieutenant General Sherman to do so on his arrival here.

General Sherman left here on the morning of the 13th; Colonel Howard and I followed in the afternoon of the same day. We proceeded almost due south along the eastern slope of the Rocky mountains. The second day out we struck the Fontaine qui Bouilli, near Colorado City, and followed this down to its mouth, near Pueblo. Here we crossed the Arkansas, and, following its bottoms some distance, struck across to the Huerfano, where we encamped September 18. Thence we crossed the mountains at Sangre del Christo Pass, and descended to Fort Garland, in the southeast corner of San Luis Park, September 20. Here General Sherman left us, on the 21st, returning east by way of Fort Lyon and the Smoky Hill. Colonel Howard and I proceeded, on the 20th, some sixteen miles further west, to San Luis del Culebra, in the heart of San Luis Park, returning to Garland again on the 21st. On the 22d we started to return, and striking the Rio Bravo, or del Norte, some thirty miles out from Garland, we ascended this to the northern border of the Park, when we bore away to the northeast and crossed over into the South Park, by Poncho Pass. Thence we crossed the South Park to Fair Play, almost due north, and thence passed the range again to Denver, reaching here on the 29th, as already stated. In all we travelled about five hundred miles, and saw all of Colorado that is of interest to the quartermaster's department.

I. *As to timber.*—This occurs in large amounts along most of the slopes and cañons, but not to the extent I had anticipated, nor is it of so good a quality as I had been informed. It is "good" for this region, but not what would be called first quality in the east. Saw-mills are found in various localities, and large amounts of lumber are being constantly manufactured for current consumption of the population here; still there are hundreds of square miles of timber here as yet untouched, and I apprehend lumber will cheapen in the future rather than become dearer, notwithstanding the rapid increase of population. For a hundred miles or so from the mountains, I am, therefore, of the opinion that it is cheaper to erect frame buildings for post purposes than any other. But beyond that distance, at all points on the plains not reached by cheap lumber from the east, I think adobe the true material. Since writing previous reports I have seen a great many of these adobe buildings, and the more I see of them the better I think of them. They strike me as warm in winter and cool in summer, because of the great thickness of the walls; and I must change my opinion as to adobe roofs, where they are properly constructed. Board floors I still regard as necessary, but I have seen adobe roofs that have lasted for years, and seem as perfect to-day as when first put on. The trouble with the roofs that I have inspected at posts east is, they are too slanting, and have been made of loose dirt instead of clay or adobe. The roof should be almost flat, should be made of soft clay, or adobe proper, and then, with a little watching the first year, I see no reason why it should not last for years in this comparatively rainless region. The Mexican inhabitants of southwestern Colorado make these adobe buildings at a cost not exceeding \$15 per thousand bricks—large sized adobe brick, say 16 inches long by 8 wide and 4 thick—so that the original cost of such buildings is not great. The post at Fort Garland is built almost exclusively of adobe; the rooms are large and comfortable, the roofs are tight, and the post commander is now erecting a hospital of the same material, though there is an abundance of good timber in the cañons adjacent. His reason is that adobe is better for the troops, more comfortable, &c., in that climate, and I am inclined to agree with him.

II. *As to forage.*—The statements in my Denver report as to the forage resources of Colorado are more than borne out by the facts as I found them on this trip. As to hay, I need scarcely speak, as it is found everywhere, and the cost of it hereafter will steadily decrease with the increase of population here. Grass grows luxuriantly along all the mountain streams, as well as the larger rivers; and among the mountains themselves stock will take care of itself all the year round. The animals used in the great freight trains are mostly wintered here in the gorges and cañons of the mountains, where grass of an excellent quality is always found in abundance. Indeed, this grass is so sweet and nutritious that ranchmen are in the habit of buying up poor cattle in the fall, which they pasture during the winter without grain, and return them to the market in the spring fit for beesves. As to grain, thousands of acres will be grown this season, and the production will steadily increase. The best localities are the valley of the Platte, the valley of the Fountain qui Bouilli, the valley of the Arkansas, and the wide bottoms of the Huerfano. I visited all these while absent, and found corn, oats, wheat, and barley growing luxuriantly. The corn was of the small or Mexican variety, weighing about fifty-four pounds to the bushel, as stated in my report on Denver, but the kernels were plump and well formed, and I see no reason why it would not suffice well for feed. The other cereals mentioned were fully up to the average of eastern grains, and the oats were especially good. Hereafter they should be used largely, in my judgment, as recommended in my Denver report. At Fort Garland I found contracts out for corn that had to be brought across the mountains, a distance of from seventy-five to one hundred miles, although excellent oats and barley were to be had much cheaper in the San Luis Park, surrounding the post. The quartermaster admitted the excellence of these cereals, and their superior cheapness; but the old routine of the department here called for corn, and hence his contracts. The San Luis Park is too high above the sea to grow corn well, (some six or eight thousand feet,) but oats and barley are produced largely. Hereafter I think Fort Garland should be required to supply itself from these products, which suffice well for forage purposes, and thus save the unnecessary expense of the long transit over the mountains. In the matter of fuel and lumber, the post now supplies itself from the adjacent cañons at a very moderate cost, the troops performing all the labor. The crops this year, in the section visited, have been grown chiefly without irrigation, this having been an unusually wet season. But facilities for irrigating, such as acacias, &c., exist almost everywhere, and the supply of water is abundant to irrigate a hundred or a thousand times as much land as is already under cultivation. The land along the streams not already occupied is fast being settled up, and I think it safe to say that the grain product of the Territory will steadily and rapidly increase from year to year hereafter.

In view of all these facts, I am strengthened in my general view as to the value of "Denver as a depot," as expressed in my report on Denver, (pp. 11 to 19,) and beg leave to repeat them accordingly. I think its importance has been overlooked, and am convinced that a straightforward, energetic officer here will do much to promote the interests of the department in various ways. Denver men and Denver capital control all this country, even so far down as Fort Garland, and all points I visited look to and depend upon it. An officer here with an intelligent knowledge of the country and familiar with its resources, I am convinced would regulate the whole matter of supplies at the posts mentioned in my Denver report, and

in the end secure a large saving to the government. Overlooking the whole ground, and knowing just what the Missouri river and Colorado could do, respectively, he would guide the department to the best results, and supply these posts at a figure much less than present cost. Post commanders would probably object to his contracting for their supplies, as they would prefer their own local quartermasters to do so. But when it is considered that such quartermasters are only detailed lieutenants, constantly changing, whose knowledge is necessarily local and imperfect, I think it obvious that the true policy is to place the whole general business of contracting in the hands of one able and experienced permanent quartermaster here, as recommended in my report on Denver. Future events—such as the introduction of the railroads, the change of posts, &c.—will of course modify these views; but until then, a period of some years to come, I feel persuaded that the views above expressed will be found substantially correct.

My future movements have already been indicated to you in my personal report for September, mailed yesterday.

Very respectfully, your obedient servant,

JAMES F. RUSLING,

Brevet Brigadier General and Inspector Q. M. D.

Brevet Major General M. C. MEIGS,

Quartermaster General United States Army.

A true copy :

JOHN V. FUREY,

Brevet Major and Assistant Quartermaster.

OFFICE INSPECTOR QUARTERMASTER'S DEPARTMENT,
Fort Bridger, U. T., October 11, 1866.

GENERAL: I have the honor to report my arrival here on the evening of the 8th instant, and beg leave to submit the following report relating to Fort Bridger, Utah Territory, in accordance with request of Lieutenant General Sherman:

This post is situated in the valley of Black's fork, a tributary of Green river, in latitude $41^{\circ} 18' 12''$, longitude $110^{\circ} 32' 23''$, four hundred and eighty miles west of Denver, Colorado Territory, and one hundred and twenty miles east of Salt Lake city. It lies in a great basin, bounded by the Rocky mountains proper on the east and the Wahsatch mountains on the west, and is the first post on this route fairly on the Pacific slope of the continent; that is, the first one, the waters adjacent to which flow to the Pacific rather than to the Atlantic. Its elevation above the sea is about 7,000 feet. Its military value consists in the fact that it commands all the eastern passes to Salt Lake valley through the Wahsatch mountains, and also the main passes to Montana and Idaho, the usual road to which branches off northwest from here. As such it has very justly been called *the key to Salt lake*. It also protects this valley, which has outlets north and south all the year round through which Indians may come and go, and against whom no troops could be sent in the winter from either the east or west, if necessary, because of the impassable condition of the mountain passes there. It was established in the spring of 1858 by General A. S. Johnston as a depot of supplies and base of operations against Salt Lake city, and has been maintained ever since, to protect the great overland route and watch the Mormons.

The Indians in the vicinity are the Shoshones or Snakes, and have long been very friendly. The post before the rebellion was built and regarded as a six-company post, but several of the buildings have been destroyed, so that its present capacity is rated at four companies. Its present garrison consists of two companies of the 18th infantry, Brevet Major A. S. Burt commanding, in all about 135 men. The duty of the quartermaster's department here is principally to supply these, there being no other dependencies, and the calls by passing troops being small.

I.—OFFICERS.

The only officer at Fort Bridger is Brevet Major Burt, who is now serving as commanding officer, adjutant, quartermaster, commissary, ordnance officer, &c. His duties are multi-form, and it is needless to say he has too much to do. He is an intelligent and efficient young officer, but has little experience in quartermaster's affairs, and should be promptly relieved of part of his duties. If able to give his whole time to the quartermaster's department, he would have enough to employ him for a year to come, and would doubtless suffice well. But I recommend that he be supplied at once with at least three subalterns—one for each company, and one to serve as quartermaster and commissary, and even then the post will have no more officers than the condition of things here actually requires. The post has been badly, not to say shamefully, abused during the past few years, and much work will be required to restore it to its former serviceable condition.

II.—PUBLIC ANIMALS.

These consist of sixty horses and one hundred and twenty-eight mules. Of these, fifteen six-mule teams are engaged in getting out a winter's supply of fuel; one two-horse team and one cart are in daily use for local post purposes, and fifty-five horses and thirty-three mules remain as surplus. Of the horses, fifty have been sent here for use of mounted infantry by order of Major General Pope. Major Burt reports them as seldom used, and thinks twenty-five would be sufficient, as they are only required to mount a party occasionally in pursuit of deserters or criminals—the Indians here giving no trouble, nor are they likely to. I concur in his opinion, and recommend that twenty-five be ordered elsewhere without delay, to mount cavalry, or sold, according to the exigencies of the department.

They are not first-class animals, but they are from fair to good, and would suffice very well for mounts in the country. Their condition otherwise is good. The winter's stock of fuel will be at the post by October 31, and after that the transportation of the post might be still further reduced, in my opinion. If it be deemed best to retain it all until spring, better prices could then be obtained. But then, at the farthest, I would recommend that the transportation be reduced to not exceeding ten six-mule teams in all, with a few surplus animals for contingent purposes. Forage is a costly article at all such posts as this, and no more animals should be kept on hand than the service actually requires.

III.—CLOTHING, CAMP AND GARRISON EQUIPAGE, QUARTERMASTER'S STORES, ETC.

The supply of clothing foots up nearly five hundred suits, with excess and deficiency of some articles. It was sent here from Camp Douglas, Salt Lake, as a year's supply for four (4) companies, and is fully a two years' supply and more, for all troops now present. Its condition is good. No complaints.

The supply of quartermaster's stores is deficient, but a twelve-months' supply left St. Louis in July, as appears by invoice already here, and is expected to arrive daily. There is no pressing want for any just now. Good storehouses, partly of log and partly of stone, shelter these supplies, and no more are needed at the post.

IV.—RAIL AND RIVER TRANSPORTATION.

The post is supplied exclusively by wagon trains from the east, on contract. No attempt has been made to supply it from the Pacific coast, and to do so is deemed impracticable by all persons I have met here. I apprehend their opinion is correct in view of the rapid advance westward of the Pacific railroad, but I reserve all expression of opinion to this until I reach Salt Lake city, where I shall investigate and report fully upon the subject.

The Pacific railroad, if it crosses the Rocky mountains by Bridger pass or the South pass, will probably run near Fort Bridger. Surveying parties have already been over all the routes here, and the probability is that the road will pass west either up Black's fork near the fort, or the Muddy, another tributary of Green river, some twelve or fifteen miles north of here. While *en route* here from Denver I met General Dodge, chief engineer of the road. At Laporte, on the Cache à Poudre, October 5th, where he was examining surveys in hand to see whether he could not get through the mountains somewhere on the line of Lodge Pole creek or the Cache à Poudre, instead of coming further north, and thus make a straighter course to Salt Lake. He said there was no doubt of his being able to get across by Bridger's pass or the South pass, but he wished to avoid the detour north and intended to pierce the mountains at once if at all practicable. Persons here, however, who know the country well, affirm that no practicable route can be found there, and that the road will have to follow Bridger's pass or the South pass, and so west, or not at all. In any event, the road will pass within a comparatively short distance of Fort Bridger. If it keeps a straight line it will pass south not over fifty or seventy-five miles from here, and a wagon road could readily be opened down the valley and through the passes to strike it somewhere there, and so avoid the heavy transit over the mountains either east or west.

The contractor on this route is Mr. Caldwell, and he does his work well. Major Burt reports two trains of subsistence stores recently received here in excellent condition. I have never met Mr. Caldwell and know nothing about him, but his work satisfies everybody on this route, and I feel it but just to commend him accordingly. Some of his trains I have met myself while on the march, and they were certainly models of transportation. No supplies are furnished him by the quartermaster's department, nor does he call for any. No transportation is furnished by stage-coach, for reasons stated in previous reports.

V.—REGULAR SUPPLIES: FUEL, FORAGE, LUMBER, ETC.

(a) *Fuel*.—The fuel on hand, as appears by reports herewith, foots up 421 cords of wood. Considerable, however, has been received since the date given in the reports, so the amount actually on hand to-day is over 800 cords. The amount on hand by October 31 will probably reach 1,000 cords, which is deemed a full winter's supply for present garrison, or even a *double issue*, which will probably be sanctioned here. This wood consists of pine, cedar, cottonwood, and quaking aspen, mostly dry and seasoned. It is found along the streams

and foot-hills, from twelve to fifteen miles southwest of here, on the government reservation, and makes good fuel. When trees die there, from fires or other cause, they do not rot, because of the purity of the air in this region, but become hard and dry, and remain for years fit for fuel. It is cut by details from the garrison principally, and hauled here by the post teams, making three trips per week. Fifteen six-mule teams are now employed on this duty, and have been for weeks past, and the bulk of the garrison have been assisting them. Only enough troops have been kept on regular duty to man two posts, and the general policing of the post, repairs to quarters, stables, &c., have all been neglected in order to get in fuel. Major Burt complains of this, and, I think, justly. The post has been sadly abused by former commands here, and one of the first necessities here now is to put it in ship shape order. If the garrison was limited to this, I think Major Burt would soon change things very creditably. Were anything gained pecuniarily by having the troops secure this fuel, the policy might be approved of, even with the present weak garrison. But I have made a careful calculation of the cost of the fuel as now put down at the fort, and find it to be not less than twelve dollars per cord, exclusive of the labor, rations, &c., of the soldiers. This is the cost, computing the expense of the transportation establishment, &c., only during the time when the teams and employes are actually engaged in cutting and hauling the wood here. To compute the total cost, you must also include the bulk of their cost all the year round, as they are kept here principally to supply the post with fuel, all other supplies being delivered here on contract. When all this is considered the cost of wood, as now delivered here, will be found to be three or four times the price per cord as given above.

Impressed with these facts, I called on W. A. Carter, (or Judge Carter, as he is called here,) the sutler of the post, and an old resident in this country, and casually asked him what he would furnish wood at the post for. He answered, on reflection, at not exceeding ten dollars per cord delivered here.

Last year he had taken the contract at fifteen dollars per cord; but labor, provisions, &c., were higher then than now, and he would be willing to deliver at ten dollars as above. I apprehend his statement may be relied on, as he seems and is reputed to be a man of character, and, as a matter of economy only, apart from all other considerations, I recommend that the post be supplied hereafter with fuel on contract. If this is done, the transportation may be reduced here to not exceeding five teams, and the employes to none. The petty expeditions that go out from here never require over a team or two; and should larger ones require more, teams might readily be forwarded from other points to meet the emergency, or even hired on a pinch. If economy is an object, this is surely the better plan.

Bituminous *coal* of an excellent quality is found in all this region. It is the one compensation that nature gives to apologize for the desolation and dreariness of the "Bitter Creek country," where the earth seems cursed by alkali and sage-brush. In the vicinity of Fort Bridger there are several very fine deposits. The nearest is on Smith's fork of the Green river, some twelve miles south from the post, on the reservation. Judge Carter offers to work this, and to put coal down at the fort at twenty-five cents per bushel, which I apprehend would be found a cheaper fuel than wood at ten dollars per cord. It would involve the cost of grates or stoves, but this would be small. In addition to this deposit, there is another, on the Muddy, fifteen miles north of the post; another on Sulphur creek, on the Chalk Creek road to Salt Lake, twenty-six miles west; another on Ham's fork, thirty-five miles northeast; and others further off. The one on Sulphur creek has been reserved for use of the post, and is probably very rich. But it is too far off, and I recommend that the deposit on Smith's fork be used instead. None of these deposits have been fairly opened, but there is no doubt of their value. Coal has been obtained from them by the troops when encamped in their vicinity, and found to burn readily, even on such rude grates as could be formed by stones, horseshoes, wagon tires, &c.

Petroleum also exists at various points twenty and thirty miles away; but this will scarcely come into use as fuel at Bridger soon, though I would suggest that it might be introduced profitably at some of the posts on the plains where wood is now so costly.

With the petroleum stoves now used in eastern cities the cooking for the troops in the summer at least would cost scarcely anything compared with wood, and the period is not distant when it will be used extensively by all settlements on the plains.

(b) *Forage*.—The supply of grain on hand consists of only four hundred and twenty-eight bushels of oats. No corn has been used at the post for some time. A twelve-month's supply of oats has been contracted for to be delivered by October 15, but little has reached here as yet, and there is no probability of the contract being filled on time. This contract was made by Captain Grimes, assistant quartermaster at Camp Douglas, with a Mr. Halsey, at Salt Lake, for oats delivered here at \$1 per bushel; last year the contract price was \$4 25 per bushel. It is important that the post be supplied at once, as winter will soon be here, when the mountain passes will become dangerous, if not impracticable. I will see Captain Grimes about this when I arrive at Salt Lake, and see that a proper supply is pushed forward at once. The stock on hand is loose oats, quite dirty, that the contractor has borrowed from the sutler here, Judge Carter, to prevent the post running entirely out. I apprehend he will be compelled to fall back on Judge Carter entirely, or fail in his contract altogether. The oats on hand need thorough winnowing and sacking to be serviceable, and I have instructed Major Burt accordingly. For some years past the post has been supplied with grain chiefly from Salt

Lake or this vicinity. Corn is not obtainable; but oats and barley of an excellent quality are grown both there and here, and can be put down at the post at rates far less than corn from the Missouri. I think the policy a good one, and recommend its continuance.

The hay on hand consists of about one hundred and eighty tons, and may be regarded as a season's supply. It is of an excellent quality, and was delivered here on contract, at a cost of \$35 per ton. Last year's supply cost \$40 per ton. It was cut on the reservation, ten or twelve miles off, on bottoms that produce two and three tons per acre irrigation. I think the price (\$35 per ton) too high, and see no reason why it should not be put down here at not exceeding \$20 or \$25 per ton at the farthest. As to this more at length.

(c) *Lumber*.—But little lumber is used here. A small supply is on hand which was obtained from Salt Lake city, and put down here at a cost of \$110 per thousand. Shingles obtained in the same way cost \$30 per thousand; and very inferior laths \$25 per thousand. The contract for these was made by Captain Grimes at Camp Douglas, and I suppose was the best he could do at the time. But recently Judge Carter has imported a saw mill, shingle-machine, &c., from the States, and says he is now ready to furnish lumber here at not exceeding \$50 per thousand; shingles, \$20; laths, \$12. As there is no saw-mill nearer than Salt Lake, I apprehend he is safe in offering those figures, and will make handsome profits even then, as there is plenty of good timber within twelve or fifteen miles of the fort.

VI.—RESERVATION—PUBLIC AND PRIVATE BUILDINGS.

The reservation here at the post is a tract of land twenty-five miles north and south, by twenty miles east and west, embracing the best and most of the valley bordering on Black's and Smith's forks of Green river. It was established in 1858, and has probably been officially declared by the government, though no record of this appears here. There is no map of the reservation here, but one is said to be on file in Washington, in either the Adjutant General's office or the Bureau of Topographical Engineers, it is not known which. A map is on file in the quartermaster's office, and a copy was forwarded to you September 5, through General Easton, by Captain Harding, the preceding quartermaster here, as I am informed. I have given no orders about forwarding a map of the reservation because of a letter on file here from General Easton, in which he says he has now two draughtsmen *en route* to Post West, in this military division, for the purpose of making maps, &c. Copies, I presume, will be furnished you by him. The large extent of this reservation was caused, I hear, by a desire at the time to exclude the Mormons from the vicinity of the fort, and confine them, as far as practicable, to Salt Lake valley. As a military measure this was wise, while they were hostile; but as an economic measure, in view of the post here, it has ceased to be judicious. Were the valley here settled up, or even partially settled, the post could be maintained at a fraction of its present cost.

Yesterday I examined both valleys for a distance of ten or twelve miles about the post, and was amazed at their extent and fertility. The valleys run nearly north and south, and are rimmed on the east and west by high, sterile bluffs. They average twenty-five miles in length, by ten or twelve miles in combined width here at the fort. The streams (Black's and Smith's forks) divide and subdivide into many others a few miles above the fork, and then reunite some distance below. They contain sufficient water to irrigate not only their own wide bottoms, but also the higher plateaus between them, thus making in all a breadth of ten or twelve miles, as I have said. These bottoms now produce grass of the finest quality, and, by irrigation, also produce oats, barley, wheat, rye, buckwheat, &c. Corn, however, cannot be grown, as the elevation above the sea is too great; and yet in all this region of such great advantages, and boundless fertility, there is not a single settlement, and the post looks for its supplies in the main, from the Missouri or Salt Lake valley, when almost everything might be produced here, and would be, were the land open to settlement.

The only cultivation or farming done is by the sutler, Judge Carter. He has a lease from the Secretary of War for all grass and tillable lands on the reservation, for two years from January 1, 1866, subject to revocation at any time, giving him the exclusive control of all such portions of the reservation, with the sole condition that all the hay and grain he raises shall be subject to purchase by the government here, should the post desire it. No limitation is fixed as to price, except such as may be agreed on from time to time, when the purchases are made, by contract or otherwise. He says his usual prices have been those current in Salt Lake, plus the cost of transportation here. The result is, his lease gives him a monopoly of grain and hay here, and he cannot help but underbid every other contract, if he at all tries to. This, because nobody else is allowed to use these rich valley lands, to cut hay or otherwise, and also because labor, provisions, &c., must be at least as cheap as, if not cheaper than, they are at Salt Lake. This year he has about three hundred acres under cultivation, and he has cut about four hundred acres of hay. The products are large, and have been for some years past. Were they all to go to the government, at fair rates, it would not be so invidious. But there is reason for reporting that but comparatively a small portion reaches our storehouses. In conversation while here I have endeavored to elicit about how much has been supplied to the government, and how much disposed of otherwise; but the judge, with a shrewdness that does him credit as a business man, has artfully avoided all my questions, and about the only information I can get is, that "some has been supplied to

the post and some has not; could not exactly tell how much." To satisfy myself, I yesterday visited the portions he is farming, and found them on Smith's fork, at a distance of seven and twelve miles respectively from the fort. He there has several hundred head of cattle, mules, horses, &c., and has in his employ there and here about 100 persons. All these are supported on the reservation, and he is allowed to cut wood, use stores, &c., *ad libitum*. He has hundreds of tons of hay, if not thousands, now in stack there, and his grain this year will probably foot up into many thousands of bushels. As the post is already supplied, or contracts have been made to supply it otherwise, all of his surplus will either be consumed by Mr. Carter, or disposed of to passing trains at enormous figures. My conclusion, from all I see here, is, that the government has never received one-third of the products of his farming, while at the same time it is bound in the lease to protect him against all trespassers, and, by committing all "grass and tillable lands" to him, has been compelled to pay one-half more for its hay and grain than it would have paid had the reservation been thrown open to settlement, or had other contractors been allowed to cut hay on the portions he does not use, of which there are thousands of very valuable acres. As it stands now, Judge Carter has a monopoly of all the good lands here, and confers upon the government no corresponding benefit whatever. At the least he should furnish supplies here at Salt Lake rates, *less* the cost of transportation here, because he can raise them certainly as cheap here as they can there, having neither money invested in the land nor rent to pay for use of the same. His plea that he has been induced to invest large sums of money in bringing agricultural implements here and starting the enterprise, and that he should be allowed his privileges until he can reimburse himself, I am unable to indorse. He came here poor in 1857, as I am informed, and is now reported worth over \$200,000. He has two stores in this country, at which he sold last year over \$150,000 worth of goods, as he informs me, at not less than fifty per cent. profit, and I apprehend his books would show that he has already reimbursed himself from his farms several times over. I regret that I find it to be my duty to report these facts; but I know only my duty as inspector, and I see no reason why Mr. Carter should be allowed these handsome privileges at the expense of the government over other citizens equally worthy, no matter how excellent a man he may be, or how polite he has been to me personally. His knowledge of this country is already a fortune in itself, and he should be content with past gains, without desiring to continue his extraordinary monopoly of the reservation lands here. Hundreds of immigrants would have been, and would only be, too glad to make the same investments of "money and implements," and ask no return from the government whatever.

In view of these facts, I accordingly recommend that Judge Carter's lease of the public lands here be revoked from and after December 31, 1866, and that the greater part of the reservation be thrown open to settlement. An area two miles square, about the flag-staff, would be ample for all post purposes here. Sufficient of this should be at once enclosed to produce all hay and pasturage required by the post. Now all the bottoms near the post are camped over by passing trains, and the grass eaten off close to the soil. A sufficient enclosure could be made at small expense, timber is so plentiful here, and hay furnished from this to the post on contract at not exceeding \$5 or \$10 per ton, instead of \$35 or \$40 as now. The saving in a year or two would thus pay for the work. The valleys would settle up very quickly, and the post would be supplied with almost everything except coffee, sugar, tea, &c., at rates 25 or 50 per cent. less than present cost. Should the settlement be principally Mormon even, the advent of the Pacific railroad will soon neutralize and overcome all that, as a strong and constantly swelling tide of immigration is sure to follow in its track.

The post proper consists of a quadrangular enclosure about the flag-staff, after the usual manner of our western posts, some five or six miles in extent. The barracks are located on the north and south sides of the quadrangle, the officers' quarters on the east, the storehouses, shops, &c., on the west. Near the centre of the parade ground, from south to north, runs a branch of Black's fork, which abounds in trout, and adds greatly to the beauty as well as comfort of the post. Other branches form a perfect net-work of trout streams about the post, though some of them have been shamefully obstructed by former commands here. All of these streams can be used for irrigation purposes, and it is surprising that advantage has not been taken to plant trees about the post and make it a perfect elysium. This work should be begun at once, as the cost will be trifling. Formerly all of these streams were well bridged, where necessary, as the great overland road passes directly across them in its way over the reservation; but many of these have fallen into decay, making the passage of the streams difficult, if not dangerous, in winter. Some of them were even torn down and used for firewood by some of the volunteer troops during the rebellion, who seem to have acted more like Vandals than soldiers, not only here, but at other posts on the plains that I have inspected. No blame for this attaches to the command now here, who seem to be endeavoring to repair the damages of former troops. The bridges I have directed to be rebuilt without delay, before winter sets in. The capacity of the barracks I have stated as at four companies, with sufficient hospitals, storehouses, &c. There is also stabling for 142 animals, and sufficient for 70 more will soon be ready. The stables are of frame, with shingle roofs, of good materials, but indifferently constructed. One of them collapsed some weeks ago after a wind storm, the frame-work being too light. But it can readily be repaired and made to do good service again. With a little expense the stables may be regarded as from fair to good. A

report of all these buildings, giving dimensions, &c., is herewith. Of course there are no private buildings at the post.

The quarters, barracks, storehouses, &c., are built of logs, with board floors and shingle roofs. They are all chinked with mortar on the outside, and the officers' quarters are also lathed and plastered inside. The buildings have been placed on the surface of the ground, with no foundations, and as a consequence are yearly injured somewhat by the frost; but this is slight, as the frost here seldom penetrates over six or eight inches, as Judge Carter informs me. With the exception of some floors that need replacing, the buildings are all good and serviceable—roofs tight, walls sound, &c.—and they will last for years yet, with slight repairs from time to time. I passed through and personally inspected the whole of them, and did not see a decayed or rotten log in any of them. There is nothing in this atmosphere to make logs rot or buildings decay, and the post, as it stands, is sufficient, in my judgment, for all future wants of the government for the period it will probably be maintained. The Pacific railroad will reach this region and pass westward by 1870 at the farthest. The year it passes here, all necessity for a military post will cease. The road will carry with it, *pari passu*, a vigorous and energetic population, that will everywhere press back the Indians and be amply able to protect itself. Military posts on the line will at once cease to be essential, and will everywhere be broken up and withdrawn to more necessary points in the regions north and south of that road.

Should it be thought proper, however, to maintain Fort Bridger as a permanent post, as the key to Salt Lake valley, it would be well to replace all the buildings here with substantial stone structures. Building-stone of excellent quality abounds on the reservation, at a distance of two miles from the flagstaff, and the alkali soil in the bluffs will suffice for mortar, without any admixture of lime even. The stone is a whitish, yellowish limestone, silicious in its character, the seams of which open readily without blasting, and but little if any dressing will be necessary to fit it for building purposes. Judge Carter has used it in the erection of his storehouses, &c., here, and though soft in the quarries, it hardens well on exposure to the atmosphere. It resembles the stone found at Fort Riley, Kansas, of which the post there is built, but has more silica in its composition, and can be worked more easily.

Buildings erected of this will stand for a century here or more, and the first cost will be but little if any greater than logs or lumber. All the bluffs and buttes around the post are filled with this stone, so that the supply may be regarded as inexhaustible. What lime might be necessary for plastering, &c., could readily be manufactured here, either wood or coal being present for fuel. I have made a rough calculation of rebuilding the post, and would report it at not less than \$150,000, quarters, barracks, storehouses, stables, &c., included. I understand that plans, estimates, &c., have been forwarded by Captain Grimes, assistant quartermaster at Salt Lake, chief quartermaster of this district, but I am unable to learn here what his figures are. I regard the whole, however, as a useless expenditure of public funds, unless Bridger is to be maintained permanently, and beg leave to recommend against it accordingly. The prime mover in this project of rebuilding the post seems to be Judge Carter, the sutler. Of course, being here on the ground, with the extraordinary monopolies he possesses, he would be the chief contractor for everything, and when the post is abandoned, he simply would have a handsome village built here to his hands, which he would probably secure for a mere song. I do not blame him for desiring thus to enrich himself, if allowed to. But I give the facts, that his statements may be duly weighed at Washington, and his plausibilities guarded against accordingly. I am positive that he has "inspired" most if not all the reports on this subject, made from this region, and refer to Captain Grimes particularly, the mass of whose facts were derived from Judge Carter, as he (Judge C.) himself has admitted to me. There is no chapel or reading-room at the post, nor any chaplain. One of the vacant buildings is now fitted up as a rough theatre, and Major Burt deserves commendation for thus trying to interest and amuse his men at odd hours. Should the post be rebuilt, a chapel should be provided. While the garrison remains as small as it is, some one of the vacant buildings might be used for this purpose, should a chaplain be sent here.

As already intimated, the post has suffered shamefully from previous commands. Its present condition is far from creditable; but Major Burt is doing the best he can with the force at his disposal, and evidences of improvement are everywhere apparent. I have no doubt he will speedily reform various matters here in the way of repairs, policing, and general cleaning up of the post, as soon as his winter's supply of fuel is secured.

VII.—EMPLOYÉS.

The roll of employés foots up eleven men, at a monthly cost of \$710, exclusive of quarters and rations, both of which are allowed. They are not in excess of present wants here. In addition, the bulk of the garrison has long been employed on extra duty, though no reports of this have been rendered. I directed such reports to be made out and forwarded, without delay, from after July 1st, as that will cover all the time for which extra-duty pay is allowed. Should the transportation be reduced, as recommended on page 3, the employés might all be discharged, except say one clerk, and the roll of extra-duty men reduced to a very few. The saving would be considerable in this item alone.

VIII.—CEMETERY

The post burial ground here is located north of the post, on the bank of the stream, about one-eighth of a mile from the flag-staff. In it are now sixty-three graves, mostly soldiers, though some are citizens. It is enclosed by a rude fence of one rail, now partly broken down, and a few irregular headboards stand at some of the graves. The location is bad, as the creek sometimes overflows, and in wet weather decent interments are impracticable; because water appears at a couple of feet or so in depth. Reports on this burial ground were forwarded to you in April and June last, as I learn here; but they were defective, as they embraced only the graves there, not all pertaining to the post. In addition, there are a large number of graves, within an area of ten miles, of soldiers and others, who perished in the Utah campaign of 1857-'58. About two miles northwest from the post is a small collection of these, numbering twenty or thirty graves. An officer is buried a half mile or so up the creek, south of the fort. Old Camp Scott, where the bulk of the army was then encamped, lies a mile or two south of the fort, and doubtless there are many graves in its vicinity. Considering all these facts, I directed Major Burt to select a suitable piece of ground on the elevated bench or plateau southwest of the post, about a quarter of a mile distant, and to enclose enough of it with a substantial stone wall to accommodate all the graves that could be discovered at or adjacent to the post. Further, to remove all the graves to this, to erect uniform headboards, open a careful record, &c., as prescribed by existing orders from your office.

The stone wall will cost but little, because of the quarries here, and the soldiers can do the work at their leisure. If the post be maintained, such a cemetery is essential; if it be abandoned, the government certainly desires to permanently protect and care for its dead.

IX.—FIRE DEPARTMENT.

But few precautions against fire are needed here; the post is so thoroughly surrounded by everflowing streams. Inflammable oils, however, I directed to be stored separately, and buckets of water to be placed through the main storehouses, &c. I apprehend no danger from this source.

X.—ACCOUNTS.

The accounts of Major Burt had been rendered for September, and in the main were correct. He makes no disbursements, except to employes. His cash on hand was \$434 50; counted and found exact. He has no safe for his funds, but at present keeps them in the safe of the Overland Stage Company. This is bad, for obvious reasons, and I recommend that a small safe be sent here at once, for the proper keeping of such public funds as may come into his hands as quartermaster, commissary, &c.

XI.—MISCELLANEOUS.

The file of the Quartermaster General's orders at the post is very defective; but few have been received for 1866, or else they have been taken away by preceding officers. I recommend that full files be sent here for 1866, and those for other years also, as far back as practicable. A quartermaster can no more do his work intelligently without full files of existing orders than a lawyer without his current law books.

RECAPITULATION.

I. I commend Major Burt as an intelligent and efficient officer; but recommend that at least three other officers be sent to Fort Bridger without delay.

II. I recommend that the public animals here be largely reduced, by sale or transfer, next spring at the furthest.

III. I recommend that the post be hereafter supplied with fuel on contract, as the cheapest and best plan, all things considered. Coal should be largely used hereafter.

IV. I recommend that the reservation be reduced to not exceeding two miles square from the flag-staff, and that sufficient of the bottom lands on this be roughly enclosed to supply pasturage and hay.

V. I recommend that Judge Carter's lease of the grass and tillable lands on the reservation, giving him special privileges of great value, to the exclusion of other persons, without any corresponding benefits to the government, but rather to its serious loss, be revoked from and after December 31, 1866.

VI. I recommend that the present post buildings be continued as they are for the short period Fort Bridger will probably be maintained, and that no new buildings, of stone or otherwise, be erected for the present. To rebuild the post would be a wanton waste of public funds, in my judgment.

VII. I recommend the employes be reduced to one clerk, should the public animals be reduced as recommended.

VIII. I recommend a small iron safe be sent here for the security of the public funds.

IX. I recommend the post be supplied with full files of General Orders from your office.

Copies of orders issued while here are herewith.

In conclusion, I beg leave to repeat my regret that I have felt compelled to remark on Judge Carter as I have in previous pages. In nothing that I there say would I reflect on the man's character or integrity. He has treated me with great urbanity while here, and Major Burt certifies to his uniform politeness and good conduct. But as an inspector of the quartermaster's department, on official duty, I must forego all personal considerations, and cannot forbear to give my impressions and report facts as I find them. It is not a pleasant duty to criticise a person holding the positions and influence he does—as sutler, probate judge, postmaster, special agent of the Post Office Department, &c. But he seems to have gotten hold of Fort Bridger and its appurtenances as his special monopoly, and I should be false to my sense of duty if I hesitated to lie the facts before you as they strike me. His power at Fort Bridger is universally commented on, and is the wonder of the country from Fort Leavenworth here.

I am, general, very respectfully, your obedient servant,

JAS. F. RUSLING,

Brevet Brigadier General and Inspector Q. M. D.

Brevet Major General M. C. MEIGS,

Quartermaster General U. S. Army.

A true copy:

JOHN V. FUREY,

Brevet Major and A. Q. M.

OFFICE INSPECTOR QUARTERMASTER'S DEPARTMENT,

Camp Douglas, Utah Ter., November 5, 1866.

GENERAL: As I wrote you October 19, I reached here October 13, but was taken ill next day, and have been unfit for duty until the last few days. Since getting up again, however, I have inspected this post, and now beg leave to submit the following report relating to Camp Douglas, Utah Territory.

This post is situated 120 miles west of Fort Bridger, in Great Salt Lake valley, and about 850 miles east of San Francisco, following the usual line of travel. It lies on a high plateau, at the foot of the Wahsatch range, overlooking the city of Great Salt Lake, which is about three miles west of it. The post is supposed to command the city, but the garrison is wholly insufficient for that purpose, consisting of only three small companies of the 18th infantry, in all less than 200 men, Brevet Lieutenant Colonel Lewis commanding.

The post can be of no use for any other purpose, as no Indian hostilities are reported near here, and no Indians worth mentioning. The duty of the quartermaster's department is to supply the post only, there being no other dependencies.

I.—OFFICERS.

The officer in charge here is Brevet Major E. B. Grimes, assistant quartermaster United States army, also acting commissary of subsistence. He was sent here last February, and relieved Captain Stover, assistant quartermaster volunteers, then on duty here. He seems to have had a rough time of it, at first; but he has succeeded in reducing affairs to a good shape, and deserves much commendation for the work he has done here. He is a capable, energetic officer, who attends to business closely, and is fit for much larger duties than he has to perform here. In addition to his duties here, he has also a supervisory control of Fort Bridger, and both there and here he has succeeded in cutting down the cost of supplies very materially since taking hold. I recommend his continuance here, especially if the troops in Utah are to be increased, unless a practical hard-working officer is imperatively required elsewhere.

II.—PUBLIC ANIMALS.

These consist of five hundred and thirty-four animals, of which one hundred and seventy-two are horses and the balance mules. A few of each are reported as unserviceable, but their chief defect is sore backs, which will soon heal. Of the horses one hundred are held here for mounting infantry, if ever necessary, for use against the Indians, &c., by order of Major General Pope. This order reached here during the summer, but no mounts have been called for, except to pursue an occasional deserter, and I recommend that the number be reduced to twenty-five without delay. The balance are in good condition and might be used to mount cavalry; otherwise they should be disposed of early in the spring. In daily use at the post I found four six-mule teams, four two-horse wagons, two one-horse carts, and three four horse ambulances. As all supplies are contracted for, delivered here, these teams are employed chiefly in hauling stone and doing other necessary work about the new buildings now going up here. The number is not in excess, except in the matter of ambulances, which should be reduced to two, one four-horse for distant trips, and one two-horse for local use. But over and above these animals there is a large excess here, which should be disposed of early in the spring. In addition to the 100 horses already spoken of, there are seventy-two others, which (except those used in teams and ambulances) are seldom used, except for improper

purposes, such as allowing soldiers, employés, &c., to ride them down town and elsewhere. The improper use comes, of course, from the surplus number, and would end with the disappearance of them. So, also, there are three hundred and twenty-six mules, none of which are needed or are in use here. I found these, with fifteen herders in charge, on the government reservation in Rush valley, forty miles southwest from here. It was proposed to winter them there, feeding one-half rations of grain and full rations of hay. At a moderate calculation the cost to the government would have been not less than \$30,000. I suggested, why not do as the settlers do here with their surplus animals in the winter time, namely, send them among the cañons to graze and feed nothing? On inquiry, it was concluded to do so, and the animals were hurried off last week to Henry's fork of Green river, one hundred and thirty miles distant, where I am assured they will winter in safety. The surplus animals of Fort Bridger will be added to them, and thus a handsome sum will be saved to the quartermaster's department, the only expense being the cost of the herders. This Henry's fork has long been the favorite wintering place for all surplus stock in this region. The freighters send their cattle and mules there, and I am informed stock comes off the fork in the spring fat and hearty as if kept on hay and grain. I would advise the immediate sale of all surplus animals; only I think it would pay better to keep them until spring, when prices will be much higher. But in the spring, at the furthest, I recommend the transportation here to be reduced to not exceeding ten six-mule teams, two two-horse teams, two carts, and two ambulances, with twenty-five horses for mounting infantry, and a few surplus horses and mules to meet contingencies, and that all the rest be either ordered elsewhere, if needed, or sold here without delay, unless the garrison be increased. With forage at the prices ruling here, it is preposterous to keep five hundred and thirty-four animals to supply less than two hundred men, when everything used is contracted for put down at the post. Major Grimes does not seem censurable for this excess, as the animals have accumulated and been retained here by orders from his superior officers, as he informs me. But the matter calls for speedy reform, and I recommend this heavy reduction accordingly.

There is good stabling at the post, recently erected, for one hundred and four animals, and a rough corral sufficient for two hundred more.

III.—CLOTHING, CAMP AND GARRISON EQUIPAGE.

The supply is very large for present wants of post, as will be seen by report herewith. It foots up nearly 6,000 suits, with excess and deficiency of some articles. This amount was received here last fall and spring, on estimates of Captain Stover, former quartermaster here, who called for supplies on a basis of 5,000 troops here, as I am informed—hence the excess. It is in good condition, and tolerably housed in temporary warehouses; but Major Grimes is about completing a new frame warehouse one hundred feet long by fifty wide, and fourteen high, that will store it all well. I therefore recommend its retention here for current use and issue here and at Fort Bridger, which was stocked this year from this over-supply. Some deficiencies have been called for on Major Grimes's estimates for this year, but they are small.

IV.—QUARTERMASTER'S STORES, MEANS OF TRANSPORTATION, ETC.

Except in the matter of harness, wagons, and some other articles, there is a great deficiency in nearly all kinds of property of this sort. Of iron and hardware especially the post is almost entirely out. The supply on hand is so small as scarcely to be mentionable, as will be seen by reports herewith. Unless a good stock reaches here by December 1, or about that time, it will not get here at all this season, and the post will be compelled to supply itself from dealers here, at a cost of from five to twenty-five per cent above government prices for such articles as can be had here, and many articles cannot be had at all. Major Grimes does not seem in fault for this state of affairs, as his letter-book shows that, so long ago as April 28, he forwarded estimates for a year's supply for four companies and two hundred and fifty animals to Colonel Maynadier, at Fort Laramie, then commanding west sub-district of Nebraska, including this post; also to Major General Dodge, at Leavenworth, then commanding the department of Kansas and the plains; and also to Brevet Brigadier General Easton, at St. Louis, then chief quartermaster of this military division. On these estimates, September 26, he received a very small consignment, consisting of tire iron, gunny sacks, wood stirrups, wagon sheets, and ambulance whips—none of which were much needed—that left Fort Leavenworth June 15, scattered through a subsistence train. Nothing has been received here since, except invoices dated as follows: one from Captain John L. Woods, assistant quartermaster, St. Louis, Missouri, June 13; another from Brevet Colonel G. P. Webster, assistant quartermaster, St. Louis, Missouri, June 26; another from Captain John L. Woods, assistant quartermaster St. Louis, Missouri, July 3; another from same, July 18; another from same, July 31; another from same, August 31; another from Brevet Brigadier General Potter, Fort Leavenworth, September 18; another from Captain John L. Woods, assistant quartermaster, St. Louis, Missouri, September 19; and another from same, October 3—making nine in all.

The only evidence of shipment is a bill of lading from Brevet Brigadier General Potter, dated Nebraska City, August 4, which covers about two-thirds of the amount of these invoices. If this shipment travels at the same rate as that of June 15, (103 days,) it ought to

reach here by November 15. But shipments on the last four invoices, it is evident, will not reach here at all, as the marching time will throw their arrival in this region far into December or January. It will probably be the same as with the clothing last year—the trains reached a point somewhere near Fort Halleck, and put up there for the winter, as it was impracticable to push through the mountains so late in the season; in the spring they set out again, and early in the summer arrived here. Fortunately the troops did not suffer, as the force had been decreased by muster-out; but had their old number been maintained here the post would have been badly short of winter clothing, and their complaints embarrassing. We have already had two feet of snow at Fort Bridger this fall, and travel has mainly ceased for the season. Still, the shipment of August 4 will probably arrive here safe, and will, perhaps, half supply the post: the balance will have to be purchased in Salt Lake city at rates already intimated, so far as dealers here can furnish them. What they cannot furnish, the post will have to do without.

I think the facts here stated reflect on the department, and somebody seems to blame. If Major Grimes's estimates left here April 28, they must have reached Fort Laramie, Leavenworth, and St. Louis surely by May 10 or 12. If so, the supplies should have been shipped from Fort Leavenworth or Nebraska City not later than July 1, at the furthest, and there is no excuse for their delay an hour later. To invoice them September 18, October 3, &c., is simply preposterous, if they are expected to get here this season, and I am at a loss to understand such delays. I regret to report these facts, but they strike me as very reprehensible, and the officer or officers at fault should be called to quick account. Hereafter, I recommend that all supplies for this post, coming from the east, be shipped from the Missouri not later than July 1, and that no trains be allowed to leave after August 1. There is no certainty of their arrival if they leave after the latter date, and the department cannot afford to deal with uncertainties. There is a large excess of unserviceable harness here, as also of wagons; but they are well cared for, and might as well remain for current use and issue. There is also a number of old and unserviceable wagons; but they will bring scarcely anything here, if sold, and I recommend instead that they be broken up and used to repair other wagons, &c., from time to time, as needed. The iron and hard wood about them are both valuable, for various purposes, and none of either can be had here, except by importation from the east.

V.—RAIL, RIVER, AND WAGON TRANSPORTATION.

The post is supplied with about everything on contract—supplies delivered here. Fuel, forage, lumber, fresh beef, flour, &c. are purchased here on contract; but the bulk of everything else comes from the Missouri by wagon train. This seems inevitable this year; but, as recommended at length in my report on Fort Leavenworth, I think the system should be changed early next year, and supplies turned over to the transportation contractors from the end of the railroad, by means of shifting depots, the same as on military railroads during the war. This is what all private parties in this region are expecting to do, so as to shorten the distance of wagon transportation, and ordinarily private enterprise is a safe guide for the public service. The results would certainly be a saving of many thousands, if not millions of dollars. The contractor now on this route is Mr. Caldwell, and here, as elsewhere, I hear only good accounts of him. Such of his trains as have arrived here are reported in fine condition, and both Major Grimes and Colonel Lewis join in commending him. His rates average about eighteen cents a pound here, which is considered reasonable. Merchants in the valley here are paying from twelve to twenty cents per pound, as they inform me, and they regard Mr. Caldwell's contract as only a living one, in view of his getting his pay in vouchers, &c.

As intimated in my report on Fort Bridger, I have looked into the question of supplying this post from the Pacific rather than from the east, and am surprised that something of the kind has not been attempted ere this. The facts I have collected strike me as very significant, and I beg to state them as follows: The distance from here to the Missouri is variously computed as from 1,100 miles to 1,200 miles. The distance to San Francisco by the usually travelled route is put down at about 850 to 900 miles. This, however, is the stage route, and has not been used much for heavy freight, because of snow on the mountains during the winter, &c. The usual freight route is down the coast by water to Los Angeles, and thence by San Bernardino and the old Spanish trail to Salt Lake city. This route gives about 800 miles of land travel, over a desert road, with insufficient wood, water, grass, &c., but it has this important advantage, that it is free from snow all the year round.

Another route has been proposed *via* the Columbia and Snake rivers, through Idaho by Boise City, &c.; but the land travel by this would foot up some 700 miles, and the route has the disadvantage of bad snows for nearly half the year. A fourth route is the one now chiefly in vogue here, and is exciting much attention in this region. It is free from snow the year round, and has undoubted advantages over all others of very great importance, as it seems to me, and I think the government should be quick to avail itself of them. This route runs almost due south (a little west) from here, striking the Colorado river at a point named Callville, somewhat northeast from the junction of the 36th parallel of latitude with the 38th meridian of longitude. The distance from Great Salt Lake city to Callville is put

down at 440 miles. The road runs through 42 villages and towns, extending most of the way, that contain in all some 30,000 inhabitants. These people are chiefly Mormons, engaged in the cultivation of cotton, and are reported as succeeding well. In some places the road is somewhat sandy, and there are two or three marches of 20 to 30 miles without water, it is said. But the route has proven entirely practicable, teams passing over it with ease, and finding abundance of wood, water, grass, &c. On the lower part of the route are mines of gold, silver, salt, gypsum, &c., some of which, as the Pahrnagat mines, are already being worked considerably. A stage runs from Salt Lake semi-weekly over about two-thirds of the route now. At Callville the Colorado gives you from two to five feet of water the year round down to its mouth, and thence to the Gulf of California, a distance of some 600 miles. The only obstacle to navigation up to Callville is what is called Roaring Rapids, a point 28 miles below, where the Colorado makes a descent of four feet in 120 yards; but a steamboat came up this at low water this year, by means of a steam capstan, in less than ten minutes, and the entrance to and exit from the rapids are so easy that no real difficulty exists here. Another point, 35 miles below Callville, named Explorer's Rock, has been considered impassable, because Lieutenant Ives struck here when ascending the Colorado some years ago in his little iron boat called the Explorer, and thereupon turned back. But recent and fuller explorations have proven Lieutenant Ives in error in many respects as here. Early last month the Esmeralda, a small steamboat of 75 tons burden, 116 feet long, and drawing some two feet of water, commanded by Captain Thomas E. Trueworthy, of San Francisco, California, ascended readily to Callville, towing at the same time a barge 124 feet long, and of corresponding breadth, loaded down with freight. Lieutenant Ives's boat, the Explorer, was but 54 feet long. The rock where she struck was found to be near the middle of the river, and a depth of from six to ten feet was found on each side of it, 100 feet in width on each side, with a current not exceeding two miles an hour. This at ordinarily low water. It is believed that the Colorado is navigable for small boats with barges in tow at least 100 or 150 miles further up above Callville, and that a point may thus be reached not over 350 miles from Great Salt Lake city at the furthest. The bugbear of the Colorado, just above Callville, is what is called the Black cañon, where the river runs for some 10 or 15 miles between perpendicular walls of rock from 500 to 1,000 feet high. To explore this a gentleman travelled to the head of it a few months ago, and building himself a rude raft, navigated the cañon in safety to Callville. He reported the Colorado above the cañon to be an open country for 40 or 50 miles, and that it is a mistake to suppose that the river is necessarily rapid and impracticable because of its high walls. His experience was to the contrary.

From Callville to the mouth of the Colorado I have given as six hundred miles. Some one hundred and sixty miles down you strike Fort Mohave, and some three hundred and forty-four miles lower Fort Yuma, which is reported as one hundred and fifty miles from the mouth of the river. At the mouth of the river a good harbor has recently been discovered where none was supposed formerly to exist. This was found accidentally by Captain Trueworthy, in 1864. It consists in fact of a second mouth of the Colorado, not down on any of the maps, which branches off some eighty miles up, and which empties into the gulf in such a way as to afford secure shelter from the terrible "borers" of the gulf. It is from fifty to eighty yards broad, and with perpendicular banks of hard clay some twenty-five feet high at low tide. At high tide the banks overflow a few inches, but the anchorage remains good. Some six miles up there is an abrupt falls extending across the stream, some four or five feet high at low water, but at high tide this disappears.

The depth of water in this singular harbor, at low tide, is given to me as from fifteen to twenty-five feet. This harbor is now used almost exclusively by the vessels in the Colorado trade. Their cargoes are here transferred to the small river boats and barges, and they here receive their outward-bound freights. There are now five steamboats constantly plying on the Colorado, and each has several barges. Last year there were but two. Boats now run up to Forts Yuma and Mohave, and they put freight down there from San Francisco, for merchants, miners, &c., at three and four cents per pound in gold respectively. I am told here that parties offer to put freight down at Callville for five cents per pound in gold, and that it can be transported from there here at not exceeding five cents in gold, making ten cents per pound in gold delivered here. Ten cents in gold would be about fourteen cents in currency, with gold at present rates, whereas our present contract price here from the east is about eighteen cents per pound. But I do not think this estimate even fair. The route is scarcely yet open; no encouragement has been given to its projectors worth naming, and all business here, as yet, streams eastward. California, with great blindness to her own interests, as it seems to me, appears to have made no effort to secure the vast trade of this region, and her gold basis repels people that would otherwise gladly deal with her. Merchants here tell me that they have attempted to trade with the Pacific, and have no doubt that they could do better there than by going east. But no routes have been opened, and no trade or travel sought, whereas the east has put forth extra efforts to hold on to them. The only route in use has been that by Los Angeles, San Bernardino, &c., over which the freight charges are now from twenty to thirty cents per pound in gold. With almost one accord they indorse this new route, via Callville, and predict for it complete success in the end. But the route must be stocked and started by somebody. As yet it is in embryo. Let the government

take hold of it and use it for only a year or two, and that will set trade and travel for Arizona, Utah, Nevada, Idaho, Montana, &c., that way, and this will soon cut the transportation rates down one-third or one-half I am satisfied. Of course all depends on what rates stores can be put down at the mouth of the Colorado for. But it strikes me that we can ship from New York direct, and so up the Colorado to Callville, without going to California at all, much cheaper than by the present route. A study of the map of the distances demonstrates, I think, that ultimately commerce will choose this new route in preference to all others for access to this great internal basin of the continent, and I am surprised that it has not been opened up sooner; for history shows that trade, heavy freights, &c., will never strike land so long as water can be made available. Of course the true plan, as on our shallow western rivers, is to use light-draught boats, with barges in tow; and this is the plan recently adopted on the Colorado.

In connection with this subject I called on Mr. Brigham Young, and other dignitaries of the Mormon church here. Mr. Young said that he had long been convinced of the practicability and advisability of the route, and had been "preaching" it for ten years past, but that California had taken no pains to open it, and that his people as yet were wedded to their eastern connections. He admitted many facts relating to it that I inquired of him about, but did not seem disposed to give me any fresh information. He denied having any maps of the region, and impressed me as quite satisfied with present routes, evidently believing that with the opening of this new, short, and, at all seasons of the year, practicable route, there would be an influx of Gentiles, miners, &c., into this region, that would be injurious to his "peculiar institutions."

Governor Durkee, Judges Titus, Drake, and others here of character and standing as federal officers, all indorsed the new route, and wished it speedy success, as a sure method of introducing and maintaining Gentile supremacy here.

The facts as to this route I have derived from a variety of sources after much inquiry, and I think they may be relied upon. One of my chief informants has been a Mr. Samuel Adams, formerly a Pennsylvanian, but now a lawyer in Arizona. For two years past he has given his entire attention to the opening of this route, and has spent considerable means in doing so. I chanced upon him here a day or two ago, just from Callville, and have found his information corroborated by what I have heard from others. He bears letters from Governor Low, of California, and others, indorsing his character, &c., and has impressed me as a truthful, reliable gentleman. He says that two corporations are now fighting for the trade of the Colorado, one the Pacific and Colorado Navigation Company, and the other the Colorado Navigation Company, which he asserts is only a branch of the great Combination Navigation Company of California, a corporation that controls all the navigable waters of that State. This Combination or Colorado Company, he says, deny the practicability of navigating the Colorado above Fort Mohave, and have asked Congress for an appropriation of \$150,000 to remove obstructions in the river. He says the Pacific and Colorado Navigation Company, by the recent and successful trips of the Esmeralda to Callville during low water, have demonstrated that there are no serious obstructions in the river, and he offers to remove them all for less than \$2,000. Of course, San Francisco capital mainly controls the rival Colorado (or Combination) company, and a glance at the map will show that her interests are opposed to the opening of the Colorado unless she controls its trade.

If the Colorado can be navigated, and the country depending on it thus opened up to settlement and commerce, a new city is sure to spring up at the head of the Gulf of California, or somewhere about there, that will communicate direct with the outside world, and thus prove a bold rival to San Francisco. I deem it proper to suggest this, that you may be able to give due weight to such opposing views as may reach you from the Pacific. I am firmly of the opinion that the government has grave interests now lying locked up by our ignorance of the Colorado, and that we have few more important matters than this now before us. Unseal the Colorado and you open Arizona, develop Utah, aid Nevada, help Idaho and Montana, and overwhelm forever, by peaceful means too, our other "twin relic of barbarism," that yet finds a refuge from Christianity and civilization in the fastnesses of these mountains and valleys. I can learn but little here of what is called the Great cañon of the Colorado. Mr. Adams thinks it somewhat of a myth, like so many other things he has heard about the river. At Denver and at Fort Garland they gave me an account of it, as beginning just above Callville, and extending some two hundred miles up the river, with perpendicular walls of rock from two thousand to three thousand feet high, between which the water rushed in rapids and cascades the whole length.

As already stated, Mr. Adams penetrated the foot of it, the fearful Black cañon, and found the first fifty or seventy-five miles of it a delusion. He has never been higher up than that, but thinks the balance about the same, from what he could learn from the Indians. If this cañon be navigable, or if it can be circumvented by portages, &c., advantages almost incalculable will result to the regions further up. There is a vast region there, as yet almost untrodden by the white man, which, I am informed by General Kit Carson and other old trappers who have passed through it, is unsurpassed in agricultural and mineral resources. The Silver mountains, or Sierra de la Plata, rim it on one side, and abound in gold, silver, copper, lead, &c. It is watered chiefly by the San Juan, Grand, and Green rivers, which unite to form the Colorado. These rivers, all large, take their rise in the Rocky, Silver, and

Wahsatch mountains, and drain Pacific-wards a vast section of country. Kit Carson says that at their junction the Colorado is a river of from five to ten feet in depth, according to the season, and that the San Juan, Grand, and Green rivers run, with from three to five feet, hundreds of miles further up still. I myself observed in crossing Green river, some eighty miles east of Fort Bridger, that even away up there, at this dry season of the year, we had some three feet of water at the ford. During high water I was told that the stream ran five and six feet deep, and had to be crossed by a ferry. Hence, I think it safe to conclude that great results depend upon the opening of the Colorado, and that the government should aid in the matter as far as it can consistently. It is of importance, it will be seen, not only to the Territories already mentioned, but to western Colorado and this vast secluded region of which the world as yet knows so little. Should I continue in the service, I would like no better duty than to be ordered to ascend the Colorado, from its mouth upwards, and explore all these rivers to the head of navigation. I am convinced that great results depend on their full and complete exploration, and I would urge these views on the attention of the department with all the force I am capable of.

In conclusion, I beg leave to recommend that proposals be invited for supplying Camp Douglas and Fort Bridger by this Callville route next season, and that they be accepted if the rates be not greater than by other routes. Advertisements should be made, of course, in the Utah, Arizona, and California papers; and should the project fail next year, the department may rest assured that it will succeed in the end. Even with the Pacific railroad here, Callville and the Colorado will be the true route for heavy freights, and it is only a question of time how soon commerce will fall into its natural and best route here, instead of continuing on in artificial channels. A railroad to the Colorado will strike navigation 400 miles from here at the furthest, and the Pacific railroad cannot reach navigation much under 1,000, either east or west, to do its best. These facts, it seems to me, settle the question, or will settle it in time. Herewith I give a rough map, which shows the Callville route and the facts connected with it with more precision than any other map I have been able to find.

VI.—REGULAR SUPPLIES—FUEL, FORAGE, LUMBER, ETC.

(a) *Fuel*.—Wood is used mostly for fuel, though some coal is issued to officers. Wood on hand consists of 1,742 cords, and more was being delivered to make up the winter's supply. This wood is a fair article for this region, and consists principally of pine, cedar, and quaking aspen. It comes from cañons thirty to seventy-five miles away, and costs delivered here \$13 65 per cord. The price is reasonable; the cost last year was \$22 50 per cord. The coal on hand, some 71½ tons, was all procured last year, and cost delivered here \$45 per ton. None has been purchased this year, but Major Grimes thinks he could have secured all he wanted at not exceeding \$30 per ton. The article is indifferent, of a soft, bituminous character, with much sulphur. Exposed to the air it slakes like lime, and falls greatly to pieces; yet it burns with a good flame, and consumes entirely to ashes, leaving no scoræ or clinkers behind. The coal on hand came from a mine in Weber valley, some forty-five miles east from here. Great Salt Lake city supplies itself from there, and no reliable mines are known any nearer. Coal, however, is believed to exist in the bluffs east and north of Camp Douglas, and I myself am of this opinion. The garrison last year ran a drift into one of the bluffs one-half mile or so north of the post, and though they found plenty of black, coal-bearing shales, slate, &c., could strike no coal. Up Emigration cañon, two or three miles from here, they also sunk a shaft, but with no satisfactory results. Nevertheless, there is reason to believe that good coal occurs quite near here, and I have impressed upon Major Grimes the importance of seeking for it as soon as more important work now on hand is over. Wood will constantly grow dearer here, because of the scarcity of it and the constantly increasing population, and coal should be resorted to as soon as practicable. Even now it would be good economy, I think, to equip the post with stoves. Stoves would make the quarters and barracks far more comfortable than the present wide, open fireplaces, and the difference in fuel consumed would more than pay for them the first season. The calculation is so plain that I forbear to make it.

(b) *Forage*.—Grain on hand consists of 1,042 bushels of oats, and 1,605 bushels of barley. The supply cost 79 cents per bushel for oats and \$1 30 for barley, delivered here. Hay on hand consists of about 59 tons, costs \$35 per ton delivered here, and the quality is excellent; no better need be wanted. Last year the quartermaster here, Captain Stover, assistant quartermaster volunteers, paid \$3 50 per bushel for his grain, and \$40 per ton for his hay.

(c) *Lumber*.—The lumber now being used here cost \$60 per thousand, delivered here, and the shingles \$10 to \$13. The quality is good. Last year we paid \$120 to \$130 per thousand for lumber, and for shingles from \$15 to \$20.

The difference in all these contract prices is so great that while I allow for a general reduction in prices since the close of the war, I must, nevertheless, call your attention to them as reflecting much credit on the present quartermaster here, Major Grimes. They demonstrate his business capacity, and speak more for his integrity and energy than any mere words can do. He should be remembered accordingly.

I think it very important, as a matter of economy, that the post continue to supply itself from this valley as far as practicable.

The subsistence department also, I beg to say, would find it greatly to its advantage to

purchase many articles here, such as beef, flour, and all kinds of vegetables, some of which it is now shipping here from the east at a heavy cost to the quartermaster's department. Beans, peas, onions, and potatoes especially are all produced here of the finest quality, and at a cost scarcely, if any, greater than that on the Missouri. So far as our department is concerned, I beg to recommend that we ship nothing here that the Territory itself can supply as cheaply. The reasons are obvious.

VII.—RESERVATION, POST, PUBLIC BUILDINGS, ETC.

The reservation here was originally established October 26, 1862, by Brigadier General Connor, United States volunteers, then in command here. As then defined it was two miles square. December 23, same year, he extended it to four miles square: for what reason is not known. I cannot ascertain that it has been officially declared a reservation by the President, but presume it has. No map of the reservation exists here; but General Easton has two draughtsmen *en route* here, who are expected weekly, and a map will be forwarded you when they complete their work here. The bounds of the reservation, as pointed out to me, run down within a mile or so of Great Salt Lake city, and a portion of it is supposed to be covered by the present corporation limits of the city. East the reservation takes in the high bluffs, just back of the post, and runs south almost to Parley's cañon, the main road into Great Salt Lake city.

The post is located in the northwest corner of the reservation, and embraces some ten or twelve acres. It stands at the foot of the high bluffs that form the eastern boundary of the valley, and occupies an elevated plateau that overlooks and commands Great Salt Lake city. A never-failing stream of water, that issues from a considerable cañon just back of the post, is led by acequias all about the post and irrigates it thoroughly. Water flows everywhere, by the quarters, barracks, storehouses, stables, around the parade ground, &c., and will ultimately make the post one of the most beautiful in the country. Shade trees have already been planted out to some extent, and are growing luxuriantly. The post is laid out for a ten-company post, but the buildings are too close and will not suffice well for more than five: it is, however, susceptible of enlargement, there being plenty of ground yet unoccupied. Some of the buildings are of adobe with shingle roofs and board floors; but most of them are of logs chinked on the outside. These last are all comfortable buildings; but many of the barracks have been hastily constructed, and not being properly tied inside, are now bulging out with a tendency to topple down. Some of these have recently been well braced with iron rods, &c., but they are organically faulty, and will soon have to be pulled down and rebuilt. The present garrison of three small companies, of course, occupy but a part of these buildings, and get along very well. These buildings were all erected in the summer and fall of 1863, by the troops then here, their first winter being passed in tents. They were placed on the top of the ground, and the frost lifts and drops them somewhat. Still I did not observe any serious results from the frost where the buildings had been properly constructed originally. All such will stand yet for years, and afford good shelter to the troops occupying them. Others, however, will have to be pulled down next season, and either reconstructed or removed.

The officers' quarters, on the east side of the parade-ground, front nearly due west. The men's barracks, on the north and south sides of the parade-ground, front the same way, with gable ends resting on the parade-ground.

In addition to these buildings, there is an old log storehouse somewhat north of the post, now filled with clothing, but not worth much for any purpose. Some of the empty barracks are now also used for storehouses, but this will soon cease. Major Grimes has just completed one fine frame storehouse, 100 feet long by 50 feet wide, and 14 feet high in the clear, that he is now using as a granary, and he has two more well under way, of the same dimensions, that he designs for quartermasters' stores, clothing, camp and garrison equipage, &c. A fourth, of the same dimensions, but with cellar underneath for the use of the subsistence department, he has also well begun.

All of these buildings will be completed by, say Christmas at the furthest, and these will give ample storage for all probable wants of the post. They will enable Major Grimes to vacate various unsuitable buildings that he is now compelled to occupy, and to arrange and systematize his stores better than he is now able to do. There are also two new stables just completed here, of frame, each of which will accommodate fifty-two animals. The balance of the animals are sheltered indifferently, in a poor corral, and more stabling, or a corral with good sheds, will be required here, should the animals on hand not be reduced next spring. All of these buildings, except the subsistence storehouse, stand in a row south of the post, off by themselves, and it is to be regretted that the subsistence storehouse was not located in the same row. It has, however, been begun near the southwest corner of the parade-ground, with its gable end resting on the parade-ground, and is already so far advanced that I have not felt at liberty to stop it. A stream of water now runs down one side of this row of buildings, but a few yards off, and it is intended to lead another down the other side as soon as they are completed, as precautions against fires, &c. There is a good hospital here, capable of accommodating forty patients, and plenty of vacant buildings that would do for a chapel, though there is no chapel proper here.

A map of the post, with full drawings, &c., as provided by existing orders, I found in the

office of the post quartermaster, and a copy was forwarded to you through General Easton, August 31, as Major Grimes informs me. A report as to the number, dimensions, and present use of all buildings at the post you will also find herewith. The new buildings now going up are all being erected by authority of the Secretary of War, and reflect much credit on the quartermaster here.

Should it be intended to maintain the post permanently, it would be well to rebuild it soon of stone throughout, rather than patch it up from time to time with costly lumber, &c. There is an excellent quality of fine red sandstone, well adapted for building purposes, in the bluffs back of the post, on the reservation, not over a mile and a half or two miles from the flag-staff, and the supply is inexhaustible. The bluffs there are all apparently filled with it. This stone is thrown out by crow-bars, without the use of powder even, and is readily worked into a very beautiful material. Lime can be had here cheap. Gypsum is found but a few miles off, and I doubt much whether the first cost of rebuilding with this stone would exceed much, if any, the cost of rebuilding with lumber. Its greater economy in the long run is too obvious to need mentioning. Major Grimes is of the opinion that he could have built his storehouses quite as cheap of this stone as he could of lumber, but it would have taken more time, and the buildings were needed immediately. As to the reservation, I think it unduly large, and recommend its reduction to not exceeding two miles square without delay. No use is made of the outlying land, and its retention will only serve as an unnecessary source of irritation here. The two miles square will embrace all the water, stone, expected coal mines, &c., that the post needs, and will keep population away as well as ten, in view of the present location of the post, near the northwest corner of the reservation and within three miles of the heart of Great Salt Lake city. I think the policy of large reservations a mistaken one; they only serve to impede settlements and raise the price of supplies, whereas the government, I take it, is desirous of securing just contrary results.

There is a government reservation some forty miles southwest from here, in Rush valley. It is six miles square, has several log and adobe buildings on it and some seven or eight miles of pale fence. I can find no map of it, nor can I learn whether it has been officially declared a reservation. It was laid out in 1858, by Colonel Steptoe, for grass and hay purposes, but is of no account now in connection with this post, as both can be had cheaper here. The grass land there consists of about one hundred and sixty acres of swampy land, that will cut about half a ton to the acre. For grazing purposes there is more, but only during the spring and early summer, as later the grass there dries up. I see no use for retaining this reservation, and recommend that it be abandoned, after selling the houses, fences, &c., if possible. I am also told that there is a reservation, four miles square, at old Camp Floyd, some twenty-six miles southeast from Rush valley. This also I recommend to be abandoned. One man, on pay of \$45 per month and rations, is now on duty at Rush valley, looking after government property there, who might be relieved and his wages saved were the reservation there abandoned.

VIII.—EMPLOYÉS.

The roll of employés foots up one hundred and fifty-one men, at a total monthly cost of \$8,830, rations and quarters not included, both of which are allowed.

This large force has been necessitated by the new buildings going up here; but Major Grimes thinks that the work will be chiefly over by November 30, when he can reduce his employés to forty men. He is mistaken, I think, about the time. His buildings will not be completed much, if any, before Christmas, and when that is done he ought to reduce below forty employés. The garrison ought to and can supply what laborers and teamsters may be necessary through the winter, (all supplies being delivered here,) and a couple of carpenters and blacksmiths each ought to suffice for his mechanics. So his clerks should be reduced to one, and one man ought to do for storekeeper, forage-master, &c., as soon as his force is reduced. I think from twenty to twenty-five men at the furthest, including his fifteen herders now absent at Henry's fork with the surplus mules, ought to suffice for Camp Douglas as soon as this fall work is over, and I recommend the employés to be reduced accordingly.

IX.—CEMETERY.

The cemetery is located about half a mile south of the post, on a fine plateau, and is the most creditable of any that I have seen from Leavenworth here. It contains about one acre, and is surrounded by a substantial wall of red sandstone, some four and a half feet high. An irrigating ditch courses around inside of the wall and supplies water to a variety of trees and shrubbery, all of which are growing nicely. The interments, ninety seven in all, have been made systematically, and neat head-boards have been erected to the graves, as provided by existing orders. Some of the graves are marked by substantial red sandstone head-stones, put up by surviving comrades, and very nicely carved. In the centre stands a lofty and most creditable monument of red sandstone, erected by former troops here (California volunteers) in memory of their comrades—officers and soldiers—who fell at Bear river and other points during the rebellion, fighting Indians. The top of this monument is crowned by the statue of an officer, and various military emblems, inscriptions, &c., adorn its sides. The

work was done by the enlisted men, and cost the government nothing except the use of tools. A very full and complete mortuary record relating to the cemetery is kept by Major Grimes, and I have been gratified by the interest he has shown in the premises.

X.—FIRE DEPARTMENT.

The fire department here amounts to nothing, nor does much seem necessary, water is so universal and so abundant. Nevertheless I thought it best to direct Major Grimes to place buckets of water through his important warehouses for immediate use in case of fire. I do not think anything more necessary. The post is as safe in this respect as it can well be made, and for the rest we must trust to Providence.

XI.—ACCOUNTS.

The accounts of Major Grimes had been rendered for September, and in the main were correct. Some minor errors I noted and called his attention to them. His cash on hand October 31 was \$7,866 77, of which \$7,539 72 was deposited with United States treasury in New York city, and balance in his safe for current use. That in safe I counted and found correct. He complains, I think justly, of the manner in which funds have been recently sent to him. Instead of depositing in St. Louis or New York to his credit, and notifying him of that fact by telegraph, so as to save time, checks have been sent him by mail on New York, which at present are not of the slightest use to him here. These checks he has to return to New York by mail and deposit there so as to check on them, so that altogether he loses more than a month in time by the operation. The truth is he ought to be either furnished with currency or allowed to deposit in the national bank here, (Miners' First National Bank,) and I so recommend. By this means he would be able to transact business quicker and purchase cheaper, and I see no reason why this change should not be made. Drafts on the east are now at a discount here instead of a premium; and this often happens in Great Salt Lake city, as I am informed.

I would also call your attention to the comparatively heavy indebtedness of the post. This Major Grimes gives me, October 31st, as \$76,208 82. His total indebtedness since August 1st he gives as \$116,208 82, for all which he has duly estimated. On his estimates, however, he has only received \$40,000, to wit: August 10th, \$10,000, and September 15th, \$30,000, leaving a deficit of \$76,208 82 as above, to date. I think this should be remedied without delay, and recommend that the proper officer be directed to place sufficient funds at once to his credit to extinguish this indebtedness, and that the post be kept well supplied hereafter. Economy, as well as its good name, requires that the government should pay promptly, and I see no reason why we should not do so while the condition of the treasury continues so healthy, if its monthly statements are to be credited.

XII.—MISCELLANEOUS.

I. Major Grimes's file of general orders from your office is the fullest that I have found for a long time, and he seems to appreciate the importance of having them.

II. In my report on Fort Bridger, page 10, I speak of the shortness of grain there, and say I will see about this on my arrival here. I spoke to Major Grimes about it immediately on my arrival here, October 14th, and he at once saw the contractor, who assured him that with a little extension of time, the post would certainly be supplied. As I was taken sick, I thought no more of it, and concluded Bridger was all right; but November 3d, when preparing this report, I inquired about the matter again, and found that out of 13,800 bushels contracted for, only 3,856 $\frac{10}{100}$ bushels had been delivered, leaving a deficit of 9,943 $\frac{3}{4}$ bushels, although the contract time for delivery expired October 15th. This was not satisfactory, and I so informed Major Grimes by letter of November 3d, and directed him to take whatever other steps might be necessary to insure a full supply of grain at Fort Bridger, without fail, before winter sets in. The contractor pleads that the recent heavy snow-storm among the mountains embarrassed him; but be that as it may, Bridger must not be left short. I have called Major Grimes's attention sharply to the matter, and do not apprehend that the department need feel anxious about it hereafter. The whole supply contracted for will scarcely be needed, as over one hundred of the animals there have recently been sent to Henry's fork to winter along with the surplus animals here, as stated on page 56.

III. I think the present policy here as to contracts bad, and would recommend an entire change. In the absence of instructions, Major Grimes has adopted the same policy here as prevails elsewhere, namely, to accept the lowest bids and make his contracts accordingly. I do not see as he could do otherwise; but is not the policy a suicidal one for the government here among these Mormons? Of course, with their peculiar organization and advantages they can well afford to take all the contracts at a figure lower than the outside Gentile population. It is to their direct interest to do so, because all such business strengthens the church, while at the same time it proportionably weakens Gentiledom. The total contracts here and at Fort Bridger for the current year, of both the quartermaster and commissary of subsistence departments, will not fall much, if any, short of \$150,000; the profits on this I apprehend will foot up \$50,000, judging by what contractors usually make. If this falls to Mormon

contractors, of course a tenth of the profits, or \$5,000, goes directly into the pockets of Mr. Brigham Young, or the "Church of Latter Day Saints," as he facetiously calls it. In other words, the United States pays into the hands of its open and avowed foes \$5,000, and into the hands of complete subjects of its foes \$45,000 more. On the contrary, if this amount had gone into the hands of Gentile contractors, it would fairly represent say fifty families, and would have strengthened by that much the loyal population here. The population of the valley is now variously represented at from seventy-five thousand to one hundred thousand souls, of which between two thousand and three thousand only are Gentiles. These last are unconditionally and unequivocally loyal to the core; while the great bulk of the Mormon population are openly and avowedly hostile, and boastingly live in open defiance of the laws of the United States, which the federal courts here are powerless to enforce. This condition of things gets no better, but rather worse here from year to year, and it is evidently only a question of time how soon the United States will vindicate its authority and dignity, or else will adopt a policy which, by encouraging and strengthening Gentileism, will gradually and peacefully neutralize and overcome Mormonism. As a step in this direction, I recommend that no Mormon be allowed to receive a contract from the quartermaster's department, but that all such patronage be held for Gentiles. Major Grimes informs me that such a policy would probably have cost the government here this year, say \$5,000 more than by letting contracts to the lowest bidders as he has. Suppose it had. Would not that have been a cheap premium for the encouragement and increase of a loyal population here? And had not the United States better have paid that for such a purpose than to put an equal sum of \$5,000 in the hands of Brigham Young as it has? I forbear to discuss this subject further, but make these suggestions for the consideration of the department, for I think the garrison here should either be largely increased or withdrawn altogether. It is in the same condition that Major Anderson was in Fort Sumter, in April, 1861; it is too small for effective use, and only serves as an insult and irritation to the people here. To effectually overawe and control these malcontents, will require two regiments of infantry, a squadron of cavalry, and a battery of artillery. They, themselves, have a militia organization in this county alone, that foots up fifteen hundred men, of whom one-third are cavalry, and a battery of howitzers besides. I attended their annual muster last week, and saw them for myself. This organization does not report to the territorial governor, but carries the flag of the old Nauvoo Legion, and that of the "State of Deseret," as well as the United States standard, and reports only to Lieutenant General Wells, a high Mormon dignitary and creature of Brigham Young. Similar organizations exist in all the other counties, though the one here is of course the largest. Governor Durkee tells me that he has tried to get hold of this militia, or to disband it, as hostile to the territorial and federal governments, but has utterly failed to touch it. Brigham Young's word is law and gospel here, and he is governor *de facto*, no matter whom the President may send here *de jure*. Before this force our petty garrison here, of less than two hundred men, is of course powerless, and is the derision of the Mormons. They are content to feed and supply it so long as they can make money and exclude Gentiles from contracts. But it could not stand a day against their fanatical thousands, if Brigham Young saw fit to launch them upon it. As a consequence, Gentiles are robbed, driven off, and even killed with impunity, as witness the case of Dr. Robinson here, October 22, while I lay sick. His offence was that he had "squatted" on a piece of ground entirely unoccupied, without improvements, some three miles from the heart of Great Salt Lake city, but to which the city nevertheless laid a claim. A force of police was sent to tear down his house and warn him from the premises. He made no resistance, but quietly removed into the city and began a suit before the federal courts to test his right of pre-emption. He had not a personal enemy. He had formerly been in the volunteer service here, and been honorably mustered out. He was a sober, quiet, upright man, and even popular, because of his services to the poor. Yet, soon after his suit was commenced, he was summoned from his bed near midnight, on the pretence that a mule had fallen on a man and broke the man's leg; and as he went forth on his errand of mercy and benevolence, he was waylaid by eight men, knocked down, and then shot through the head two or three times, so as to make sure of their victim. His watch, purse, &c., were left unmolested in his pockets. The police made no effort to discover his murderers. And the universal conviction of all federal officers here, governor, judges, &c., and of the great bulk of the Gentile population, is, that Dr. Robinson was deliberately killed by the Mormons, because they were afraid to abide the decision of the courts. True the city has offered a reward of \$2,000 for the apprehension of his assassins, and Mormon and Gentile merchants some \$7,000 more. But this trick deceives nobody here, and is only meant to "throw dust into the eyes" of Lieutenant General Sherman and people east. I give this as only one illustration of what is constantly occurring here in some form or other, and hence I say our present garrison is only a mockery of power. I recommend its speedy increase to the figures heretofore given, and that ample protection be given to all American citizens here the same as in New York and Massachusetts. Wherever the flag floats we are entitled to freedom of speech, and of the press; and neither exists here now. If the United States government cannot guarantee them, in spite of a hundred thousand polygamous, disloyal Mormons, then it seems to me it had better abdicate and make way for some other decent, Christian government that can and will.

RECAPITULATION.

I. I commend Major Grimes as a faithful and efficient officer, and recommend his retention here for the present.

II. I recommend the animals on hand to be largely reduced next spring, by sale or transfer, according to the exigencies of the department.

III. I recommend the large excess of clothing, &c., here, to be retained for current use and issue; well stored.

IV. I recommend that supplies for Fort Bridger and Camp Douglas leave the Missouri hereafter not later than August 1, at the furthest; otherwise, there is no certainty of their reaching here till next season.

V. I recommend that proposals be invited for supplying Fort Bridger and Camp Douglas hereafter from the Pacific *via* the Colorado river and Callville.

VI. I recommend the use of stores here hereafter as a matter of economy in fuel.

VII. I recommend that Fort Bridger and Camp Douglas be supplied, as far as possible, with current products of this Territory, because far cheaper.

VIII. In case the post be rebuilt and permanently held, I recommend that stone only be used; plenty on reservation within a mile or two.

IX. I recommend that the reservation be reduced to two miles square as a matter of policy, and that the reservations at Rush valley and Old Camp Floyd be abandoned.

X. I recommend the force of employes be reduced to not exceeding twenty or twenty-five, including herders, by December 31, garrison to furnish details for balance.

XI. I recommend that sufficient funds be sent Major Grimes to enable him to extinguish the indebtedness of the post, and to pay his debts right along hereafter. Also, that he be allowed to deposit in the national bank here for the purpose of expediting business.

XII. I recommend that no contracts be given out to Mormons hereafter; but that all such patronage be reserved for the Gentile friends of the government.

XIII. I recommend the garrison here to be increased by two regiments of infantry, a squadron of cavalry, and a battery of artillery, so as to give ample protection to all loyal American citizens.

Copies of orders issued while here are herewith, as also various reports showing the condition of affairs here in detail.

In conclusion, I am, general, very respectfully, your obedient servant,

JAMES F. RUSLING,

Brevet Brigadier General and Inspector Q. M. D.

P. S.—In my remarks on Callville, (pages 12, 30,) I have said nothing about Mexico, because I understand that, by the "Gadsden purchase," we secured the right to free navigation of the Colorado. Besides, I do not suppose her rights and dignities would stand much in the way of the United States in a matter of so much importance to us and the commerce of the world.

J. F. R.

A true copy:

JOHN V. FUREY,

Brevet Major and Assistant Quartermaster.

OFFICE INSPECTOR QUARTERMASTER'S DEPARTMENT,
Fort Vancouver, Washington Territory, December 3, 1866.

GENERAL: I have the honor to report my arrival here, November 29th, from Camp Douglas, Washington Territory, via Fort Boise, Idaho Territory. My reasons for adopting this route are given in my personal report for November, and I trust are satisfactory.

While *en route* here, I inspected Fort Boise, and beg leave to submit the following report relating to the same. This post is situated in southwestern Idaho, on the great stage route from Salt Lake city to the Columbia river, a half mile or so northeast of Boise city, the capital of the Territory; distance from Salt Lake city, 400 miles; to the Columbia, at Umatilla, 270 miles. Its present military value is to protect this stage route and as a minor supply depot. As protection to the stage route, it has ceased to be of importance, because the route needs none, there being no Indians along the road or east of Snake river, (to speak of,) and Boise city and thereabouts having sufficient people to take care of themselves. As a supply depot, it is worse than useless, being of no account in any way except to increase bills of expense. At present, it is also headquarters of the district of Boise, embracing most of the region thereabouts. Its garrison consists of one company of the first cavalry and one of the fourteenth infantry, in all about one hundred and seventy men. The duty of the quartermaster's department at Fort Boise is to supply these and the dependencies of the depot, which are, respectively, Camp Lyon, sixty-five miles southwest, garrisoned by one company of cavalry; Camp Winthrop, at the Three Forks of the Owyhee, (near old Camp Henderson, abandoned,) one hundred and ten miles southwest, garrisoned by two companies

of infantry; Camp C. F. Smith, (near old Camp Alvord, abandoned,) one hundred and ninety miles southwest, garrisoned by one company of infantry; and Camp Warner, (near Christmas lakes,) two hundred and eighty miles southwest, garrisoned by one company of cavalry and two companies of infantry. The aggregate strength of these outlying posts is about six hundred men. They are in the heart of the Indian country in that section of Oregon, and are all reported as essential to overawe the savages. It does not appear that there are many settlements in that region, nor much mining except on the Owyhee; but the road to Chico, California—now becoming the main freight and travel route between Boise City and California—runs through here, and its protection is of importance.

All of these dependencies, however, can be supplied from San Francisco via the Sacramento river and Chico, at twenty or thirty per cent. cheaper than by the present route via the Columbia and Fort Boise, and I therefore recommend that Fort Boise, as a depot, be broken up and abandoned early in the spring.

The location of Fort Boise and its dependencies is shown by map herewith.

I.—OFFICERS.

The quartermaster on duty at Fort Boise is Captain T. J. Eckerson, assistant quartermaster. He is also chief quartermaster of the district of the Boise, and assistant commissary of subsistence. He has been long in the service, though but recently attached to the quartermaster's department, and is familiar with his duties. He concurs in the above views as to the future value of Fort Boise, as do various officers I met there, as well as several here. He was stationed at Fort Boise last spring. I think he has erred in not visiting its dependencies ere this, and seeing for himself all their wants and the resources of the neighboring country; but he claims that he has been so busy in reforming matters at Boise and stocking the various posts, that it was impracticable to do so. In my judgment, every district or department quartermaster who makes contracts for posts under him should visit those posts at least once a year. He will thus see their present necessities and familiarize himself with the resources of the country, so that when he comes to receive bids he will be able to act intelligently. Had Captain Eckerson done this, I judge he would have avoided making some contracts he has, concerning which there is some unpleasant criticism here and elsewhere. At the same time, his integrity is unassailed, and he impressed me as an upright and incorruptible officer. I regret to report, however, that I do not think him fitted to administer a district or department. As a post quartermaster he would probably do well.

II.—PUBLIC ANIMALS.

These consist of ninety-eight horses and one hundred and fifty-three mules. They are barely serviceable and no more. They are chiefly the refuse of the district, turned in from posts, expeditions, &c., and the most of them are of but small account. Of these, five six-mule teams are in daily use for post purposes; the bulk of the balance may be regarded as surplus. The surplus should have been condemned and sold early in the fall to save cost of wintering. As it is, the winter's forage is on hand, and I recommend that they be kept until spring and then sold at auction at Boise. They will probably sell as well there as anywhere else for farming purposes.

III.—CAMP, CLOTHING AND GARRISON EQUIPAGE, QUARTERMASTER'S STORES, ETC.

The clothing on hand consists of about 1,900 suits, with excess and deficiencies in some things. It is in good condition and well housed. No complaints as to its quality. As will be observed, it constitutes about a two years' supply for the troops present in the district—about eight hundred. The supply of quartermaster's stores, means of transportation, &c., is small; but sufficient were *en route* from the Columbia to make up a season's stock for the depot.

IV.—RAIL AND RIVER TRANSPORTATION.

Supplies are received from San Francisco via the Columbia river, except fuel and forage. The route is long and very costly. Estimated distance to San Francisco, by route used, 1,285 miles; of which 1,015 are by water and 270 by land. The cost of freight, as reported to me by Captain Eckerson, is about nine cents per pound in coin. The only other practical route is by Chico; the cost of freight by which he gave as about twelve cents per pound in coin. The true route of supply for Fort Boise, while it is maintained, is therefore the Columbia river, though I think the rates from the river to Boise too high; $7\frac{1}{10}$ cents per pound in coin is the present freight charge—almost half as much as we pay from the Missouri to Camp Douglas, some 1,200 miles, though the distance from the Columbia to Boise is only about 270 miles. The supplies for Boise and its dependencies have nearly all gone by this route this year. I have said previously that its dependencies could be supplied much cheaper from California direct by the Chico route. Captain Eckerson's present contracts for freight to these dependencies are as follows: From Fort Boise to Camp Lyon, from five to eight cents per pound, varying with the season; to Camp Winthrop, ten cents; to Camp C. F. Smith, nineteen and a half cents; to Camp Warner, twenty-three cents—all in coin, with

legal tenders selling at from seventy-five to seventy cents per dollar. A letter from Colonel Babbitt, chief quartermaster, San Francisco, in Captain Eckerson's office, says that he can put freight down at Camp Warner, via Chico, at fifteen cents per pound in coin, from Chico; the charge to Chico from San Francisco cannot be over one or two cents, so that the total cost by this route to Warner would not have exceeded seventeen cents per pound, and to the other posts in proportion. The present rates, it will be observed, foot up thirty-two cents: Before Colonel Babbitt's letter was received, all the freight had been despatched at the costly rates given; but it strikes me a glance at the map would have shown that the true route of supply for these dependencies was via Chico. As near as I could ascertain, the distance from Boise to San Francisco by this route is about 700 miles; of which about 460 miles is land transportation from Chico, the head of water transportation. As the four posts all lie near the Chico road, this would make their distances from water transportation 395, 350, 270, and 180 miles respectively. Camp Warner lies somewhat off the road to the north; but a good road runs thence to Fort Bidwell, and connects with the Chico road at about the distance above given. This Chico road has been opened but a year or two; but stages now run over it regularly, and the general freighting business for Owyhee and southwestern Idaho from San Francisco is settling down to this route. Camps C. F. Smith and Lyon were supplied with subsistence over it this year from San Francisco, and I see no reason why the whole four posts should not have been supplied this way with everything. There were certain supplies at Boise which it was as well to ship from there as to leave in store; but large amounts were also brought from the Columbia and reshipped at the costly rates stated, for which I see no valid excuse. Trains were still *en route* from the river to Fort Boise when I inspected the post; and what I saw on the road were very shabby in appearance compared with Mr. Caldwell's, our contractor on the plains. In my judgment, the chief quartermaster of the department, Brevet Lieutenant Colonel Hodges, is the officer chiefly at fault; and his remissness has caused the department an expenditure of many thousands of dollars this season that might readily have been saved. The whole system of freighting from Columbia to Boise, and from Boise to points beyond, is wrong. The practice has been to hire the transportation in open market, whereas by judicious advertising I doubt not good contractors and reasonable rates might have been obtained, the same as over the plains. Captain Eckerson seems to have advertised in but a single instance; when the bids, not being satisfactory, were all rejected, and contracts made half a cent less per pound than the lowest bid. But this proves nothing; and the experience of the department elsewhere shows that it is better, cheaper, and safer, to make general contracts with responsible men for the season, rather than to pick up individuals, as you happen to find them, for each different job of freighting, as appears to have been the case at Boise. Colonel Hodges should have taken the business into his own hands as one of the most important matters in the department, and should have arranged for supplying the dependencies from California direct rather than by the present roundabout and costly way, as it seems to me. I regret to pass this censure upon his management of affairs here, but the facts compel it.

Hereafter I recommend that the four posts, Camps Lyon, Winthrop, C. F. Smith, and Warner, be supplied from California by the Chico route. As I said previously, the change would result in a saving of twenty or thirty per cent., if not more, in my judgment.

V.—REGULAR SUPPLIES—FUEL, FORAGE, ETC.

The fuel used is wood; it comes from cañons and patches on the mountains, and consists chiefly of fir and cedar. A double allowance is issued when it seems necessary. It costs, delivered at the post, \$13 50 per cord in coin; last year it cost \$9 25; but the contractor is reported as losing money. I thought the price too high, but am inclined to change my opinion, after seeing more of the treeless character of the country, and inquiring into the prices current in Boise city. There is a wood reserve of three hundred and forty-three acres a mile away on an island on the Boise river; but this has long been denuded of all trees. Much of the wood now used is hauled twenty or thirty miles, and some even further. The supply on hand is small, but more is being received daily; and as soon as snow comes it will be delivered by sleds from points inaccessible to wagons. No coal has been discovered near the post; but while *en route* here I heard of coal on Piatt river, near Mr. Shafer's ranche, some forty miles from Fort Boise, and also on Snake river at Farewell Bend, some eighty miles from Boise. I could learn nothing about the character of the former; but the latter is good anthracite, and is already much used by the people there. A steamboat is now running on Snake river from Farewell Bend upwards, and could deliver this coal at a point southwest from Fort Boise, some thirty miles off. This coal is mined directly on the bank of the Snake—in fact *out of the bank*—and could be put down at Boise, I judge, at a less figure than wood costs there now. I think this worth considering if Fort Boise be maintained, as wood will yearly cost more there. I could hear of no peat-beds, and doubt if they exist nearer than Piatt and Powder rivers—too far off to compete with this coal.

Forage.—Grain cost eight and one-third cents per pound in coin, delivered at the post. Oats and barley are used, both costing the same. No corn is purchased; but little raised in that region. The supply last year cost ten cents per pound. Hay costs \$34 44 per ton in

coin, delivered at the post. Last year's supply was bought in open market, and cost more, Captain Eckerson thinks; but his predecessor left him no data as to prices. A hay reserve of five hundred and three acres, three miles off, on the Boise river, furnished three hundred tons this season; this was cut by contract, and cost, stacked there, \$14 per ton. This reserve is fenced in and guarded, and seems to have paid for itself well. The supply of forage on hand is small; but a full supply has been contracted for, and is being delivered right along; it comes chiefly from Boise valley. I was unable to obtain any data as to the cost of fuel at the dependencies of Fort Boise; but Captain Eckerson thought they were all supplying themselves by the labor of the troops. As to forage, however, I took the following from his contracts: At Camp Lyon grain costs, delivered there, $10\frac{1}{10}$ cents per pound; hay, \$60 per ton. At Camp Winthrop, grain 20 cents per pound; hay, \$125 per ton. At Camp C. F. Smith, grain, $11\frac{3}{10}$ cents per pound; hay, \$47 95 per ton. At Camp Warner, grain, $31\frac{1}{2}$ cents per pound; hay cut by the troops. These prices, of course, are in coin, as greenbacks cease to be currency after you pass Salt Lake. I think all of these forage rates too high, and the difference in the prices at the dependencies not justified by the difference in distances. The contract at Camp Winthrop especially looks very singular compared with those at Lyon and Smith. An easy calculation will show that the cost of maintaining these four posts at such rates is enormous. Much of it, it is plain, comes from not selecting the Chico route to supply these posts; and I am unable to understand why this was not done if economy is desired. If there be two hundred animals at Camp Warner, including the cavalry there—and there are probably more—their grain alone, from November 1 to April 30, will cost \$135,360 in coin. I think if the district quartermaster, Captain Eckerson, had visited the posts in person, and studied their resources, he would have been able to make better contracts than these, and I am unable to acquit the department quartermaster of his just share of blame. Why did he sanction contracts at such rates?

Lumber costs in the rough \$60 per thousand in coin, and shingles \$6. The same remarks as above I would repeat as to lumber.

VI.—RESERVATION, PUBLIC BUILDINGS, ETC.

There are properly three reservations at Fort Boise—first, the wood reserve, an island in Boise river, a mile south from the post, containing 343 acres; second, the hay reserve, some three miles northwest, on Boise river, 503 acres; and, 3d, the main reservation, about the post, containing 640 acres. The wood reserve might as well be thrown open to pre-emption, as the wood has all been cut off, and it is of no further use. The hay reserve gave us 300 tons of hay this year, about half the price of contract hay, and should be kept, if the post is maintained. The main reserve is one-half a mile north and south by two miles east and west, and runs quite down to Boise city, which is already pushing up to the reserve, as close as allowed to. It is quite as small as it should be, and I would not recommend its further reduction. The post is located southwest of the centre of the reservation, a half mile or so from the centre of Boise city, a town now of some 2,000 inhabitants. The buildings are intended for two companies. They are of a light sandstone, which abounds on the reservation. There is good frame stabling for about 100 animals, and a new cavalry stable (frame) is just being completed—capacity, 90 horses. The company quarters require new floors and some patching, but the general condition of the buildings is good. The storehouses are ample for present post and depot purposes, though one small one was burned down some months since.

A report on these buildings is herewith enclosed. A map with drawings of same is on file in the quartermaster's office, and I was informed copies had been sent to you by Lieutenant Tobey, 14th infantry, formerly quartermaster. The post was established in 1863 by Major Lugenbeel, 19th infantry. A map of the same is on file in the quartermaster's office, obtained from one on file in your office, as appears by certificate of General Dana. There is no record at the post of the reservations having ever been officially declared, but this I judge has been done. The location of the post is bad; it is too near Boise city, and the ground itself is broken and irregular. The officers' quarters are on one plateau, the company quarters and parade ground on another several feet below, and the storehouses, shops, stables, &c., are jumbled together very singularly. The post is unenclosed, and the public road to Idaho city passes directly through it. The general effect of the post is bad, and this impression is not removed by a study of its military value.

In view of the facts, I repeat my recommendation that Fort Boise be abandoned, and recommend that the reservations be thrown open to pre-emption, and the public buildings turned over to the Interior Department, for use of the Territorial government. The territorial government has no buildings at Boise city now, and I understand is an applicant for these, in case the post is given up. They would suffice well for the purpose indicated, and the United States would at the same time save the cost of rent, or of erecting new buildings.

VII.—EMPLOYÉS.

The roll of employés foots up forty-two men, at a monthly cost of \$3,905. Rations and quarters are also allowed in the main. I think the number unusually large, and recommend the discharge of at least the acting forage master, whose work can be done by the wagon-

master or storekeeper, and of all the carpenters, except two; also of the six teamsters and two laborers, whose work should be done by detailed soldiers, as it is purely local. If the post is broken up, of course the whole expense will be saved. The "freighters" and "hired animals," entered on the report herewith, come under the head of transportation, which I have already noticed fully.

VIII.—CEMETERY.

There is a space of ground one-quarter of a mile northeast from the post where there are nine soldier interments and many citizens. As yet this is the common cemetery for Boise city also. It is unenclosed, and is no credit to the post in its present condition.

A report of these graves has been made to you, and Captain Eckerson intends to enclose a proper portion of the ground as soon as practicable. This, however, should have been done before, and head-boards erected, &c., as required by existing orders. If the post is abandoned the soldiers' graves should be enclosed by stone, for obvious reasons.

IX.—FIRE DEPARTMENT.

The post has no protection against fire, except a small stream on the south, which runs dry in summer. The nearest water then is the Boise river, three-fourths of a mile off.

I directed buckets and barrels of water to be placed in all the storehouses, &c.; but the post may be regarded as practically defenceless in case of fire.

A recent fire there destroyed one of the storehouses, though built of stone. I was unable to ascertain the loss of property, but it was not large.

X.—ACCOUNTS.

The accounts of Captain Eckerson had been rendered for September, and those for October were well under way. With slight exceptions they were correct. His cash on hand, November 17, consisted of \$87 90; counted and found correct.

Your attention, however, is called to his indebtedness, which, October 31, amounted to \$297,409; by December 31, judging by his contracts out, it will reach \$525,854. To off-set this he had notice of \$60,000 *en route* from Colonel Hodges, chief quartermaster, department of Columbia—a "drop in the bucket." Vouchers more than a year old are still afloat in the Boise market, and the selling price there is now twenty per cent. discount; at the dependencies the discount runs up to thirty and forty per cent. The effect of this is to discourage all small dealers, and to throw the government business wholly into the hands of men who can afford to float vouchers, but who, of course, charge the government back again with the cost of this on their next contracts. Besides, is not the fact disgraceful to the quartermaster's department in the present condition of the treasury? Of course the present high prices in the district of the Boise for all services and supplies have been caused largely by this state of our vouchers, and the quickest way to remedy the matter hereafter is to pay as we go. I do not see that Captain Eckerson is responsible for this, as he has made his estimates regularly, and has called attention to his heavy indebtedness, both present and accruing. But I think *somebody* is, and I recommend that funds be ordered to Boise at once, to extinguish everything, and keep matters paid up hereafter. It will avail but little to send checks, as drafts on New York and San Francisco are generally at a discount at Boise city. But if *currency* can be sent in proper quantities, so as to restore the credit of the quartermaster's department, we shall be able to supply all the posts there at a very great saving hereafter. Why cannot this be done, and the quartermaster's department thus be saved the fierce abuse that now assails throughout the district of the Boise? Why cannot we pay our debts promptly, as well as the subsistence and other departments?

XI.—MISCELLANEOUS.

Captain Eckerson's file of general orders from your office was good, though not full. I instructed him to write for the ones still wanting.

RECAPITULATION.

I. I recommend that Fort Boise be broken up and abandoned, as no longer of any value, either as a post or depot.

II. I recommend Captain Eckerson, chief quartermaster, district of the Boise, as a good post quartermaster, but think him unsuited to handle a district or department.

III. I recommend that the surplus animals be sold at Boise city, at auction, early in the spring.

IV. I recommend that the dependencies of Fort Boise be supplied hereafter from San Francisco, California, by the Chico route. The result would be a saving of twenty-five per cent., if not more.

V. Should Fort Boise be maintained, I recommend that it be supplied with coal hereafter, as fuel, instead of wood, from a mine at Farewell Bend, on Snake river.

VI. I think the forage contracts at Fort Boise and its dependencies too high, and that they reflect upon both the district and department quartermaster.

VII. In case Fort Boise is broken up, I recommend that the public buildings be turned over to the Interior Department for use of the territorial government, which has no accommodations now at Boise city, the capital of Idaho Territory.

VIII. I recommend that the employés at Boise be reduced by the discharge of laborers, teamsters, &c., and the substitution of enlisted men. Also that the larger part of the carpenters be discharged.

IX. I recommend that proper funds be sent to Fort Boise to extinguish present and accruing indebtedness; vouchers now at a heavy discount.

I am, general, very respectfully, your obedient servant,

JAS. F. RUSLING,

Brevet Brigadier General and Inspector Q. M. D.

Brevet Major General M. C. MEIGS,

Quartermaster General U. S. A.

P. S.—Certain reports of Captain Eckerson's, not herewith, will be forwarded as soon as received.

J. F. R.

A true copy:

JOHN V. FUREY,

Brevet Major and A. Q. M.

Brevet Major General M. C. MEIGS,

Quartermaster General U. S. A.





NEW ORLEANS RIOTS.

LETTER

FROM

THE SECRETARY OF WAR,

IN ANSWER TO

A resolution of the House of December 13, stating that all information relative to the New Orleans riots has been sent by him to the President for transmission to Congress.

JANUARY 21, 1867.—Laid on the table and ordered to be printed.

WAR DEPARTMENT,
Washington City, January 19, 1867.

SIR : In compliance with a resolution of the House of Representatives of December 13, 1866, I have the honor to inform you that the information, including telegraphic despatches sent or received, and all reports and testimony in reference to the riots at New Orleans on the 30th July last, called for by said resolution, have been sent to the President for transmission to Congress, in compliance with his directions, accompanying a resolution of the House of Representatives of December 12, 1866, referred by him to this department.

Very respectfully, sir, your obedient servant,

EDWIN M. STANTON,
Secretary of War.

Hon. SCHUYLER COLFAX,
Speaker of the House of Representatives.

SPRINGFIELD ARMORY.

LETTER

FROM

THE SECRETARY OF WAR,

TRANSMITTING

*Statement of arms manufactured and repaired, and expenditures made at the
Springfield armory.*

JANUARY 21, 1867.—Referred to the Committee on Military Affairs and ordered to be printed.

WAR DEPARTMENT,
Washington City, January 19, 1867.

SIR: In compliance with the requirements of the act of April 2, 1794, I have the honor to transmit herewith a letter by the Chief of Ordnance of January 18, 1867, with a statement of the expenditures and of the arms, &c., manufactured and repaired at the Springfield armory during the fiscal year ended June 30, 1866.

Very respectfully, sir, your obedient servant,

EDWIN M. STANTON,

Secretary of War.

Hon. SCHUYLER COLFAX,

Speaker of the House of Representatives

ORDNANCE OFFICE, WAR DEPARTMENT,
Washington, January 18, 1867.

SIR: In compliance with the requirements of the act of April 2, 1794, I have the honor to submit herewith a statement of the expenditures, and of the arms, components and appendages, manufactured and repaired at the Springfield armory during the fiscal year ended June 30, 1866.

Very respectfully, your obedient servant,

A. B. DYER,

Brevet Major General, Chief of Ordnance.

Hon. E. M. STANTON,

Secretary of War.

Statement of expenditures at the Springfield armory, and of the arms, components of arms, and appendages made and repaired thereat during the year ended 30th June, 1866, in pursuance of the act of April 2, 1794.

Expenditures and appropriations:

National armories.....	\$1, 309, 925 38
Purchase of arms.....	157, 139 20
Ordnance and ordnance stores, &c.....	149, 085 98
Arming and equipping the militia.....	225, 055 87
Total.....	1, 841, 206 43

Arms, components, and appendages manufactured:

Rifle muskets	700
Rifle muskets altered to breech-loaders.....	2, 245
Cadet muskets	500
Butt screws.....	150, 941
Trigger screws.....	122, 894
Guards.....	2, 774
Rear sight bases.....	5, 163
Rear sight leaves.....	5, 222
Rear sight joint screws.....	20, 636
Rear sight base screws	20, 049
Rear sights	6, 311
Front sights.....	39, 520
Breech screws.....	465
Cones	24, 103
Tang screws	45, 063
Band springs.....	38, 440
Middle band swivels.....	112, 411
Middle band screws.....	33, 066
Tumblers	139
Bridle screws.....	14, 337
Sear screws.....	33, 308
Sear spring screws	37, 114
Locks.....	9, 676
Side screws.....	113, 580
Ramrods	4, 040
Bayonets	53, 680
Bayonet clasps.....	5, 084
Bayonet clasp screws.....	7, 616
Band screws	5, 441
Vent screws.....	19, 671
Magazine cover studs.....	10, 417
Magazine cover rivets.....	514
Magazine cover catches	6, 010
Magazine cover catch screws	6, 214
Hammers.....	579
Locks.....	1, 000
Patch box spring screws	513
Joint pins	270
Guards.....	100
Upper and lower band stop screws.....	12, 788
Screwdriver wrenches	68, 799
Screwdriver blades.....	300, 683

Screwdrivers	66, 691
Spring vice bolsters	95, 737
Spring vice slides	60, 929
Spring vice slide screws	74, 003
Spring vice thumb screws	71, 468
Spring vices	40, 444
Tumbler and band spring punches	183, 651
Collets	362, 141
Punch rivets	112, 100
Punches	43, 366
Wipers	75, 758

Arms repaired :

Springfield muskets, model 1861	59, 753
Springfield muskets, model 1863	9, 787
Springfield muskets, model 1864	5, 420
Springfield muskets, short, calibre .58	775
Colt's rifle muskets	4, 320
Maynard primer muskets	1, 761
Maynard primer muskets, incomplete	1, 691
Richmond rifle muskets	520
Maynard primer, short, complete	20
Maynard primer, short, incomplete	20
Richmond muskets, short	20

A. B. DYER,

Brevet Major General, Chief of Ordnance.

ORDNANCE OFFICE, *January* 18, 1867.



CLERKS OF THE FEDERAL COURTS.

MESSAGE

FROM THE

PRESIDENT OF THE UNITED STATES,

IN ANSWER TO

A resolution of the House of 16th instant, relative to the clerks of the federal courts and the marshal of the district of North Carolina.

JANUARY 21, 1867.—Referred to the Committee on the Judiciary and ordered to be printed.

To the House of Representatives :

I herewith communicate a report from the Secretary of the Interior, in answer to a resolution of the House of Representatives of the 16th instant, in relation to the clerks of the federal courts and the marshal of the United States for the district of North Carolina.

ANDREW JOHNSON.

WASHINGTON, D. C., *January 19, 1867.*

DEPARTMENT OF THE INTERIOR,

Washington, D. C., January 19, 1867.

SIR: In reply to the resolution adopted by the House of Representatives on the 16th instant, in relation to the rooms provided for the clerks of the federal courts for the district of North Carolina, the legislation necessary to secure the records of those courts, and the entire compensation of the marshal and clerks of the district during the last year, I have the honor to report that no accommodations of that character have been furnished by the department at the public charge, as the "necessary expense" of the office of a clerk of a court of the United States are payable out of the emoluments of the office. The following extract from the instructions issued in 1857 by the department, and still remaining in force, furnishes the rule on this subject, which, it is believed, is warranted by a just construction of the act of February 26, 1853, (Stat. at Large, vol. 10, p. 161 :)

"Clerks have frequently requested that offices be provided and furnished for them at the expense of the United States; but such applications have gen-

erally been refused, the rule being to allow office accommodations when, at particular places or in large cities, the government is compelled, on account of the large amount of business transacted, to make provision for the courts by renting or erecting buildings, and rooms can be spared without inconvenience or additional expense, but not otherwise."

The circuit court of the United States for the district of North Carolina is held at Raleigh, where accommodations are furnished to the courts free of rent.

That district was, by an act approved April 29, 1802, (2 Id., p. 162,) divided into three districts, and the district courts directed to be holden therein have the same power, jurisdiction, and authority as are vested by law in the district courts of the United States. The district courts sit at Edenton, Newbern, and Wilmington. There is but one judge; but each court has a clerk, who is required to reside and keep the records of his office at the place where the court is holden.

At Edenton the courts are holden in the county court-house, free of charge; at Newbern accommodations are furnished by the quartermaster, by order of the Secretary of War; and at Wilmington the courts are holden in the United States building which is appropriated to other public purposes, and where, it is presumed, apartments are furnished to the clerk.

It appears from the above statement that the government, except, perhaps, in relation to the courts held in Wilmington, has made no provision for the accommodation of the clerks, or the safe-keeping and security of the records and archives committed to their custody. The same remark will, however, apply to every other district court of the United States which is not held in a building belonging to the United States, or rented for the use of the courts, where rooms can, without additional expense, be appropriated as a clerk's office. The clerk in such cases provides his office, and the records of the court are often deposited in buildings not fire-proof nor affording adequate security for their preservation.

I have referred to the subject in my annual report, and expressed an opinion, to which I still adhere, that provision should be made for the courts of the United States and the officers therewith connected, in buildings specially adapted to the purpose, and owned by the government.

A very limited amount of business is transacted in the federal courts for North Carolina, and Congress must determine whether the necessities of the service and the public convenience require that the existing arrangement in relation to the courts in that district shall remain unchanged.

The accompanying report from the First Comptroller of the Treasury furnishes a reply to that part of the resolution which refers to the compensation of the marshal and clerks of the courts.

I have the honor to be, very respectfully, your obedient servant,

O. H. BROWNING,

Secretary.

The PRESIDENT of the United States.

TREASURY DEPARTMENT, FIRST COMPTROLLER'S OFFICE,

January 17, 1867.

SIR: Herewith I return the copy of the resolution adopted by the House of Representatives on the 16th instant, requesting you to furnish certain information respecting the officers of the United States courts in North Carolina; and in compliance with your request, have to state that during the year the entire compensation of the clerks of said courts, so far as the same can be ascertained from the accounts which have passed through this office, was as follows:

Clerk of the United States circuit court	\$55 00
Clerk of the United States district court at Edenton	40 75
Clerk of the United States district court at Newbern	77 95

The accounts of the marshal were received here this morning for the fall terms 1865, and spring terms 1866—none others have been rendered—and the fees charged by him amount to \$505 16, out of which his deputies are to be paid. He receives, in addition to fees, a salary of \$400 a year.

Very respectfully, your obedient servant,

R. W. TAYLER,

Comptroller.

Hon. O. H. BROWNING,

Secretary of the Interior.



SEWER THROUGH THE BOTANIC GARDEN.

LETTER

FROM THE

COMMISSIONER OF PUBLIC BUILDINGS AND GROUNDS

RELATIVE TO

The sewer through the Botanic Garden.

JANUARY 21, 1867.—Referred to the Committee on Public Buildings and Grounds and ordered to be printed.

OFFICE OF THE COMMISSIONER OF PUBLIC BUILDINGS,
CAPITOL OF THE UNITED STATES,
Washington City, January 19, 1867.

SIR: I have the honor to enclose a report required by a proviso in the civil appropriation act of last session, relative to the sewer through the botanic garden.

I commenced this report more than a month ago, as its date indicates, but circumstances beyond my control have delayed the finishing of it to this day.

When it is known that I have only a single clerk to aid me in the performance of the onerous duties of this office, I trust the delay in making this report will be excused.

I am, with high respect, your obedient servant,

B. B. FRENCH,
Commissioner of Public Buildings.

Hon. SCHUYLER COLFAX,
Speaker of the House of Representatives.

OFFICE OF THE COMMISSIONER OF PUBLIC BUILDINGS,
December 17, 1866.

SIR: In conformity with the directions contained in the proviso attached to the appropriation "to complete the sewer through the botanic garden," contained in the appropriation act for civil expenses, approved July 28, 1866, (Laws United States, first session thirty-ninth Congress, page 325,) I have the honor to make the following report:

That the following extract from my annual report made to the Secretary of the Interior on the 30th of October last, and by him submitted to Congress, gives the reasons why I delayed advertising for proposals until October, 1866, viz :

“When the appropriation of fifteen thousand dollars was finally made at the last session, a proviso was attached that the work under it should be done by contract. This proviso was added at the last moment of the session, and the law not being published for considerable time after the session closed, I did not know of the proviso until, perhaps, a month after Congress adjourned. My health was then such that my physician peremptorily ordered that I should leave all business for at least a month, and early in September I left the city on leave of absence. Nothing could properly be done in my absence, and, as there was not money enough appropriated to pay arrearages and complete the work, it was questionable what it was my duty to do. On my return, in October, I found the men who had been employed in anticipation of an appropriation clamoring for their pay. They were poor and needed it. I ascertained that there was a sufficient sum to pay arrearages and to complete the side walls of the culvert, ready for the arch, to Third street, its terminus. Upon consultation with the Secretary of the Interior, after inspecting the work with him, he advised that I should pay all arrearages, and advertise for proposals to lay the floor and build the side walls to the terminus of the culvert, and ask for another appropriation to finish the arch. I have followed his advice, and the bids are to be opened on the third day of November. The work, except to gather the material, will not, probably, be commenced until next spring.”

The proposals were opened on the third day of November, in the presence of the Secretary of the Interior, and the contract was awarded to John Cameron, he being the lowest bidder.

He had scarcely commenced his labors when it was urgently represented to me, from the mayor of Washington; the engineer of the canal; W. R. Smith, the superintendent of the botanic garden; Job W. Angus, my general superintendent, and many other citizens, that if the sewer was carried to Third street and made to discharge into the canal at that place, directly against the current of the canal, the water from the canal, in time of freshet, would back up into the culvert and probably cause its destruction. So much was said, and representations were so strongly made, that, in conformity with the advice given and the promptings of my own judgment, I caused the direction of the culvert to be so changed as to cause it to empty into the canal at a point below Third street, where it would strike the canal with the current, and thus obviate all risk of damage to the culvert by the backing up of the water into it. This, of course, will add somewhat to the expense of completing the culvert.

I now proceed to give “a full statement of the expenditure of the present and past appropriations for this work, with the rates that have been paid for work and materials under each appropriation.”

The first appropriation was made on the second day of July, 1864, and was \$10,150.

That appropriation became available in the autumn of that year, at a time when labor and material were exceedingly high.

One hundred and eighteen thousand five hundred brick were purchased and laid in mortar formed of hydraulic cement, which cost, laid, forty dollars per thousand, for which Mr. Thomas Lewis, one of the oldest and most experienced bricklayers of Washington, was paid \$4,740 00

The bottom is formed of joist and plank, which were purchased of

Wm. McLean, at prices ranging from \$30 to \$40 per thousand,	
and cost	601 00
There were paid to laborers, for the month of September, \$2 per day	
.....	872 00

There was paid to mechanics and carpenters, during the same month, at \$3 per day	\$457 00
There was paid for drawings, &c	48 00
In the month of October there was paid to laborers, mostly colored men, at \$2 each per day	435 23
To John Cameron, stonemason, for laying stone wall, at \$5 30 per perch	851 00
To Walter D. Wyvill, hardware merchant, for shovels, nails, &c..	179 43
To mechanics and laborers, (mechanics, \$3 per day ; laborers, \$2).	1, 077 61
In the month of November, to W. D. Wyvill for nails	48 00
Laborers, at \$1 75 per day	339 46
In January, 1865, to Wm. McLean, for spruce lumber, at \$40 per thousand	194 00
Laborers, in December, at \$1 75 per day	285 91
To Thomas Lewis, for 92 barrels of cement, at \$2 50 per barrel...	207 07
For 115 perch of stone, delivered, at \$4 per perch	460 00

NOTE —The first appropriation was expended at this point, but the second having been made, the accounts were carried along and all adjusted together.

The second appropriation was made April 7, 1866, and was \$20,505.

Lumber of S. Norment, ranging from \$30 to \$50 per thousand....	795 61
Pay-roll for laborers, at \$1 75 per day each	215 94
Pay-roll for January, 1865, paid in May, 1866, laborers	83 97
Pay-roll for carpenters, April, 1866, at \$2 per day	516 40
Pay-roll for March, 1866, white and colored laborers, \$1 75 per day each	97 29
Pay-roll, April, 1866, for soldiers employed as laborers, at \$1 75 per day	1, 409 60
Pay-roll, May 1866, for soldiers employed as laborers, at \$1 75 per day	1, 448 00
To Charles Stewart, for 50 perches of stone, at \$4 per perch	200 00
For 104 loads of sand, at 80 cents per load	82 20
John Cameron, for laying in cement 422 perches of stone, at \$4 50 per perch	1, 899 00
Paid Walter D. Wyvill, for nails, tools, &c	523 50
Paid George Waters, 252 barrels of cement, at \$2 25 per barrel .	567 00
Paid Mr. J. Dixon, for 57 perches of stone, at \$4 per perch	228 00
Paid Mr. John Cameron, for laying 140 perches of stone-masonry, at \$5 30 per perch	742 00
Pay-roll for laborers for the month of May, 1866, at \$1 75 per day each	464 94
Paid Wm. McLean, for joist and timber, averaging about \$45 per M.	306 36
Pay-roll for mechanics in the month of May, 1866, at \$3 per day each	908 19
J. M. Stake, for 200 perches of stone, delivered, at \$4 per perch....	800 00
Noble D. Lerner, 100 loads of sand, at 80 cents a load	80 00
S. Norment, for lumber, averaging about \$45 per M.....	189 70
John Cameron, for 200 perches of stone, at \$4 50 per perch, (heavy stone for capping)	900 00
Pay-roll for laborers in the month of June, \$1 75 per day each	222 74
Paid Samuel Cook for grading	566 10
George Eslin, for 95 perches of stone, at \$4 per perch	380 00
John Cameron, for laying 200 perches of stonemason work, at \$4 50 per perch	900 00
Pay-roll for mechanics for the month of June, at \$3 per day	785 57
Pay-roll for laborers and carts for the month of June	430 50

Pay-roll for laborers in the month of June, (second pay-roll)	\$479 96
Paid Thomas Lewis, for 70,000 hard brick, laid in arch, at \$30 per thousand	2,100 00
Paid Thomas Fahey, for 65 loads of sand	65 00
Paid J. A. Boyce, 30 perches of stone, at \$3 50 per perch	105 00
Paid William Smoot, for 52 barrels of cement, at \$2 25 per barrel..	123 07
Paid Thomas Lewis, for laying 143,300 brick, at \$30 per thousand..	4,299 00
Pay-roll for laborers and carts, \$1 75 each for laborers, and \$3 for horses and carts	332 99
Paid John Cameron, for 39 perches of stone-masonry, \$4 50 per perch	1,525 50
Paid John Cameron, for 250 perches of stone-masonry, at \$4 per perch	1,000 00
Samuel Norment's bill for lumber, June 23, 1866, omitted in its proper place	1,842 35
Paid John Cameron under his contract	1,000 00
Advertising	49 44
Internal revenue	64 61
	<hr/>
	39,525 24

RECAPITULATION.

Appropriated July 2, 1864	\$10,150 00
Appropriated April 7, 1866	20,505 00
Appropriated July 20, 1866	15,000 00
	<hr/>
	45,655 00
Expended	39,525 24
	<hr/>
Balance on hand	6,129 76

The work that has been done has been well and faithfully done, and has already stood two of the heaviest freshets we have had for many years.

The bills have all passed through the Interior Department into the Treasury, where they have undergone the strict scrutiny of the accounting officers, and have been allowed and adjusted.

The items can all be seen, at any time, on the files of this office.

I am, with high respect, your obedient servant,

B. B. FRENCH,

Commissioner of Public Buildings.

Hon. SCHUYLER COLFAX,

Speaker of the House of Representatives.

